


PRELIMINARY
NOT FOR CONSTRUCTION



REV. NO.	DESCRIPTION	DATE

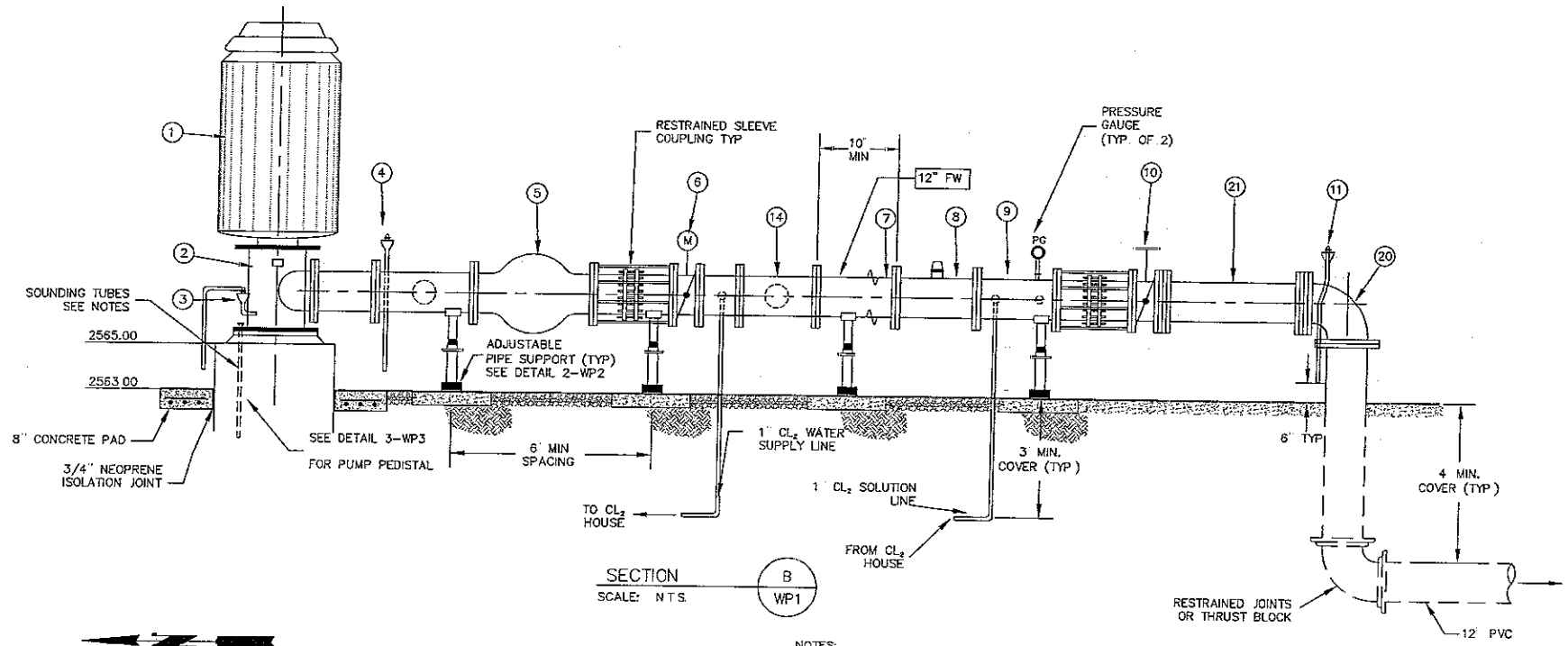
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DRAWN BY B. Curtis
CHECKED BY
DATE 02-01-2006



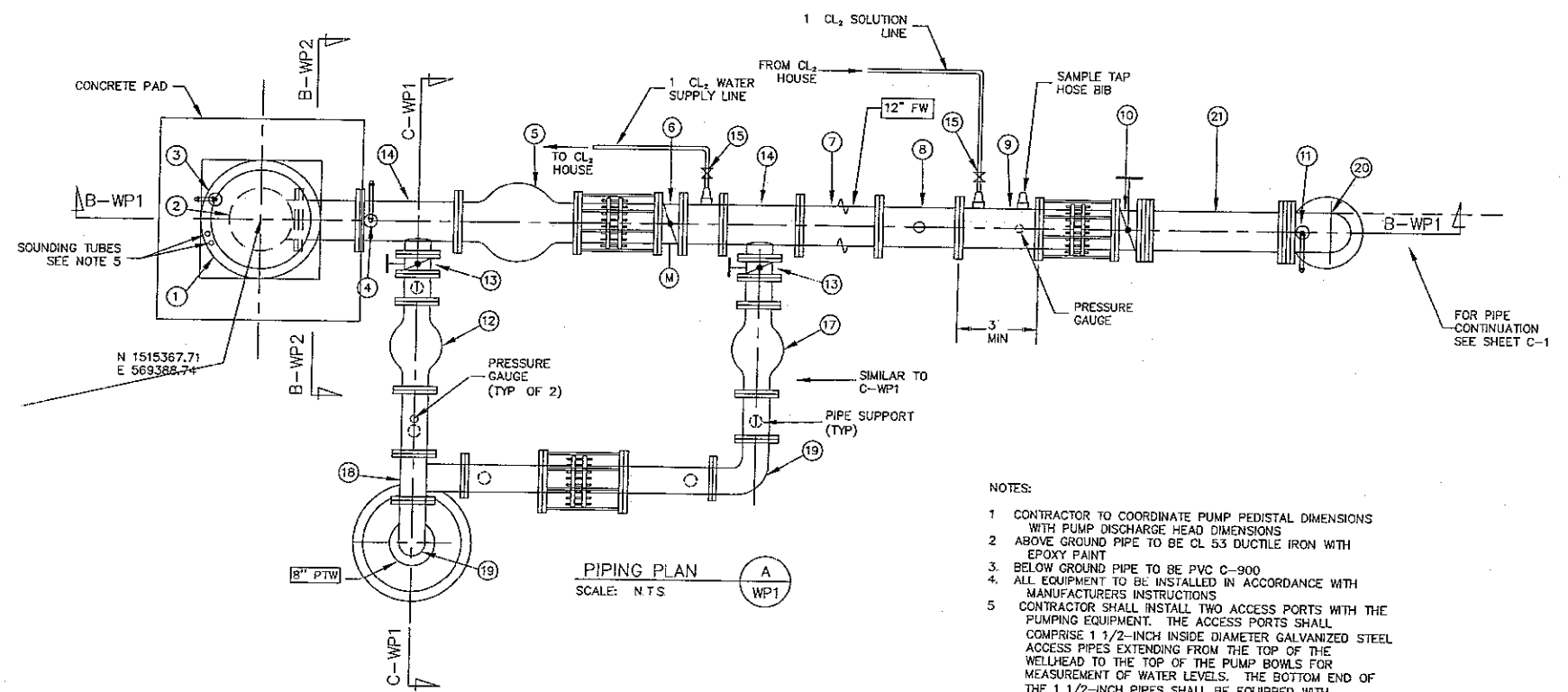
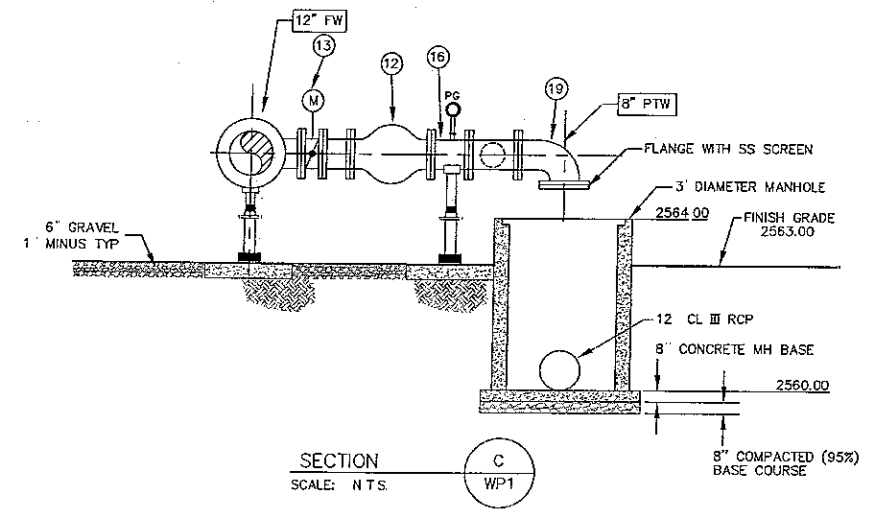
Stanley Consultants Inc.
5800 S. Eastern Avenue, Suite 200
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(602) 998-9793
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RHODES HOMES ARIZONA, LLC	ARIZONA
GOLDEN VALLEY RANCH WELL #1	
SITE PLAN	
MOHAVE COUNTY	

SHEET
2 OF 20 SHEETS
SCI PROJECT# 18499.07.03



NOTES:
PUMP AND MOTOR ARE CURRENTLY IN USE AT THE SITE
CONTRACTOR SHALL REMOVE PUMP MOTOR AND EXTEND PUMP
DISCHARGE COLUMN AND MOTOR SHAFT TO MATCH FINISHED
PUMP FOUNDATION ELEVATION



NOTES:
1 CONTRACTOR TO COORDINATE PUMP PEDISTAL DIMENSIONS
WITH PUMP DISCHARGE HEAD DIMENSIONS
2 ABOVE GROUND PIPE TO BE CL 53 DUCTILE IRON WITH
EPOXY PAINT
3 BELOW GROUND PIPE TO BE PVC C-900
4 ALL EQUIPMENT TO BE INSTALLED IN ACCORDANCE WITH
MANUFACTURER'S INSTRUCTIONS
5 CONTRACTOR SHALL INSTALL TWO ACCESS PORTS WITH THE
PUMPING EQUIPMENT. THE ACCESS PORTS SHALL
COMPRISE 1 1/2-INCH INSIDE DIAMETER GALVANIZED STEEL
ACCESS PIPES EXTENDING FROM THE TOP OF THE
WELLHEAD TO THE TOP OF THE PUMP BOWLS FOR
MEASUREMENT OF WATER LEVELS. THE BOTTOM END OF
THE 1 1/2-INCH PIPES SHALL BE EQUIPPED WITH
THREADED CAPS AND THE BOTTOM 20 FEET OF THE PIPE
STRING SHALL BE PERFORATED WITH A MINIMUM OF TEN
(10), 1/4-INCH DIAMETER HOLES PER FOOT. THE HOLES
SHALL BE EVENLY SPACED. THE SOUNDER ACCESS PIPES
SHALL PERMIT THE FREE AND UNOBSTRUCTED PASSAGE OF
THE OWNER'S ELECTRIC SOUNDER AND PRESSURE
TRANSDUCER FROM THE BOTTOM OF THE ACCESS PIPES
SUCH THAT ACCURATE WATER LEVEL MEASUREMENTS CAN
BE OBTAINED. THE ACCESS PORT AND PIPE DESIGN SHALL
BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO
FABRICATION OF THE PIPE AND FITTINGS.

VALVE AND EQUIPMENT SCHEDULE

NO.	DESCRIPTION	SIZE	JOINT TYPE	REMARKS
1	ELECTRIC MOTOR	600 HP	---	N.I.C. BY PUMP EQUIPMENT SUPPLIER
2	DISCHARGE HEAD	12" DISCHARGE	---	N.I.C. BY PUMP EQUIPMENT SUPPLIER
3	AIR/VAC VALVE ASSEMBLY	1"	---	APCO SERIES 140
4	COMB AIR VAC/AIR RELEASE DEEP WELL AIR VENT	2"	---	APCO 144 DAT
5	SILENT CHECK VALVE	12"	FL X FL	OCV SERIES 94-3
6	BUTTERFLY VALVE	12"	FL X FL	ELECTRIC MOTOR ACTUATOR
7	SPOOL PIECE	12"	FL X FL	MINIMUM LENGTH OF 5 PIPE DIAMETERS
8	MAGNETIC FLOWMETER	12"	FL X FL	SIEMENS MAG 5100W
9	SPOOL PIECE W/OUTLET	12"	FL X FL	MINIMUM LENGTH OF 3 PIPE DIAMETERS
10	AWWA BUTTERFLY VALVE	12"	FL X FL	HAND WHEEL OPERATOR
11	COMB AIR VAC/AIR RELEASE VALVE ASSEMBLY	1"	---	APCO 143C
12	AUTOMATIC CONTROL VALVE	8"	FL X FL	OCV SERIES 126
13	BUTTERFLY VALVE	8"	FL X FL	HAND WHEEL OPERATOR
14	TEE	12" x 12" x 8"	FL X FL X FL	
15	BALL VALVE	1	THREADED	
16	SPOOL PIECE WITH TAP	8"	FL X FL	
17	SURGE ANTICIPATION VALVE	12	FL X FL	OCV SERIES 108SA-3
18	TEE	8" x 8" x 8"	FL X FL	
19	90° BEND	8"	FL X FL	
20	90° BEND	12"	FL X FL	
21	STATIC MIXER	12"	FL X FL	KOFLO SERIES 512 2 ELEMENT

FL = FLANGE

PRELIMINARY
NOT FOR CONSTRUCTION

REGISTERED PROFESSIONAL ENGINEER
43932
D. KIM
SORENSEN
7/1/10
ARIZONA U.S.A.

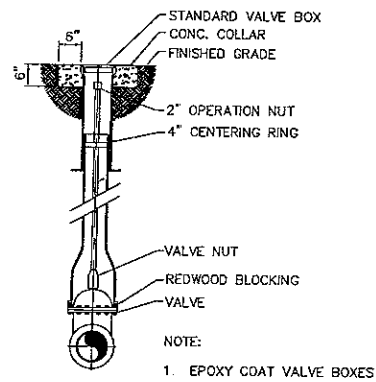
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DATE

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DATE 02-01-2006

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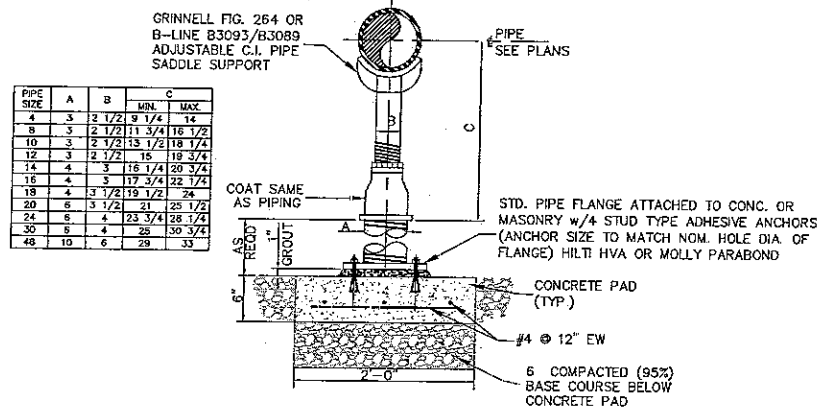
GOLDEN VALLEY RANCH WELL #1
PUMP AND DISCHARGE DETAILS
MOHAVE COUNTY

SHEET
WP1
3 OF 20 SHEETS
SCI PROJECT#
18499.07.03



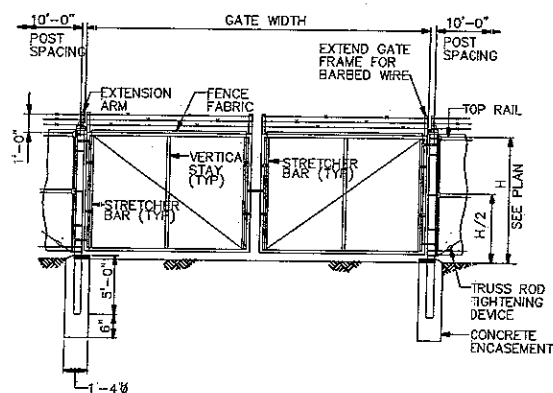
TYPICAL VALVE BOX
SCALE: N.T.S.

1
WP2

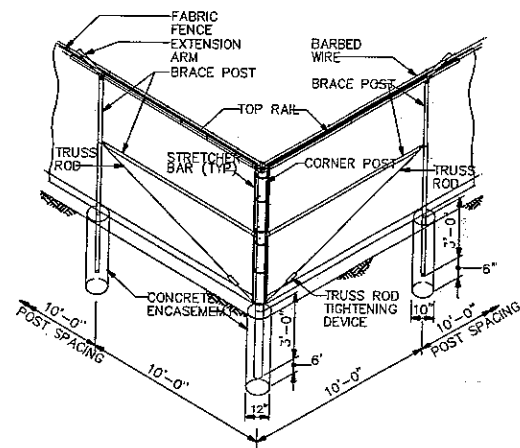


PIPE SUPPORT
SCALE: N.T.S.

2
WP2

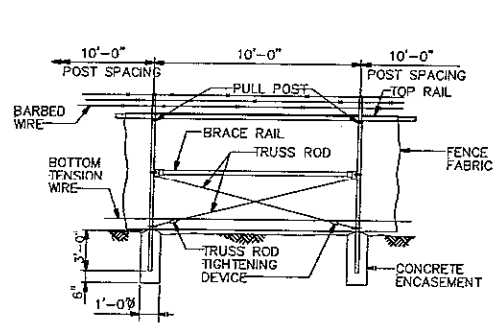


TYPICAL GATE INSTALLATION
NO SCALE

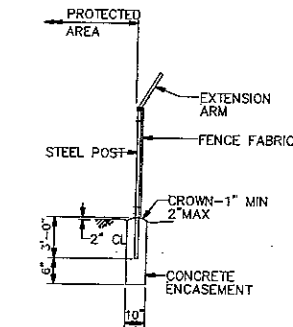


TYPICAL CORNER, ANGLE AND PULL POST DETAIL
NO SCALE (TWO BRACE POST ASSEMBLIES) (ISOMETRIC VIEW)

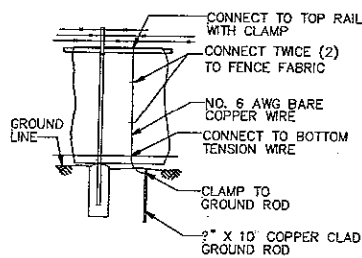
NOTES:
ALTERNATE DETAILS MAY BE PROPOSED REFER TO PROJECT PLANS FOR LOCATION OF FENCE.



PULL POST INSTALLATION DETAIL
(ONE BRACE POST ASSEMBLY)
NO SCALE



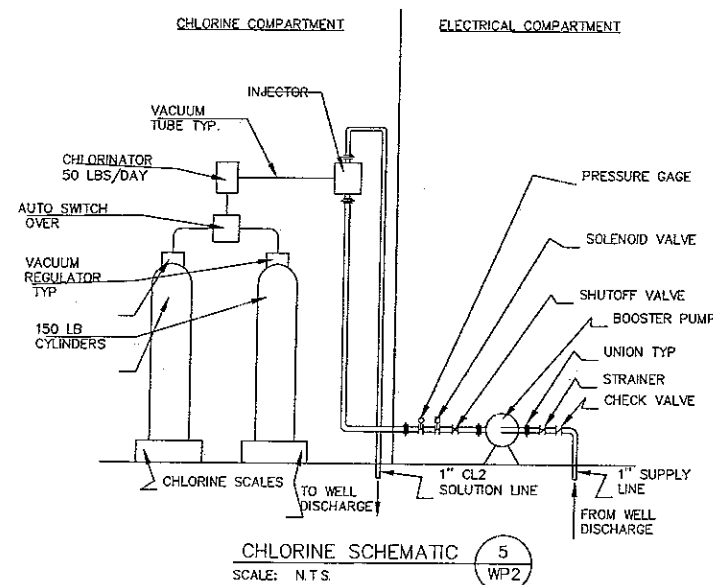
POST INSTALLATION DETAIL
NO SCALE



TYPICAL GROUND ROD INSTALLATION DETAIL
NO SCALE

FENCE DETAIL
SCALE: N.T.S.

3
WP2

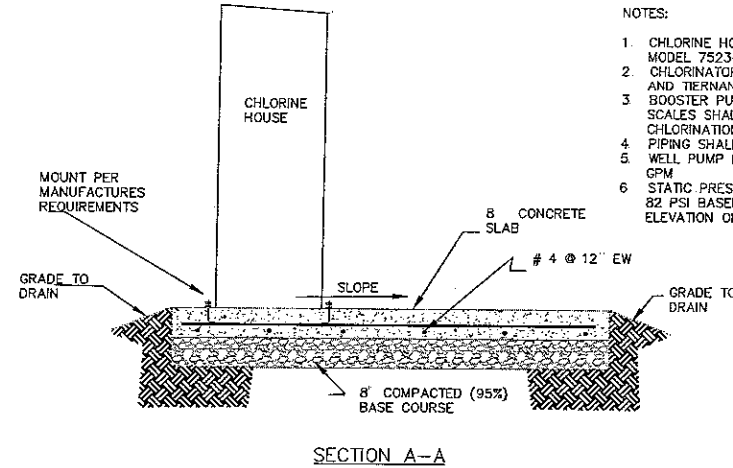


CHLORINE SCHEMATIC
SCALE: N.T.S.

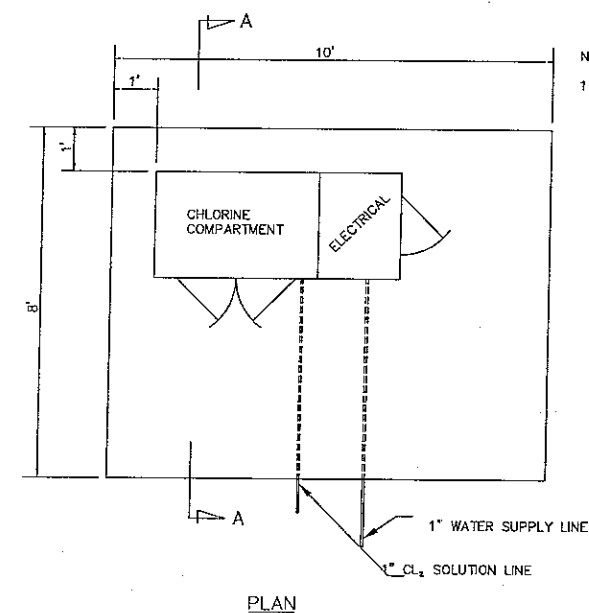
5
WP2

NOTES:

1. CHLORINE HOUSE TO BE BEVCO MODEL 7523-F OR EQUAL
2. CHLORINATOR SHALL BE WALLACE AND TIERNAN VIOK OR EQUAL
3. BOOSTER PUMP AND CHLORINE SCALES SHALL BE SUPPLIED BY CHLORINATION EQUIPMENT SUPPLIER
4. PIPING SHALL BE SCHEDULE 80 PVC
5. WELL PUMP FLOW RATE IS 1700 GPM
6. STATIC PRESSURE AT WELL HEAD IS 82 PSI BASED ON RESERVOIR ELEVATION OF 2750



SECTION A-A

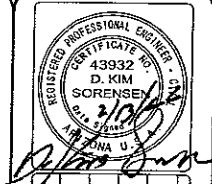


PLAN

CHLORINE HOUSE
SCALE: N.T.S.

4
WP2

PRELIMINARY
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SCALE (H) 1" = 20'
SCALE (V) NA
DRAWN BY B. Curtis
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DATE 02-01-2008

5820 S. Eastern Avenue, Suite 200
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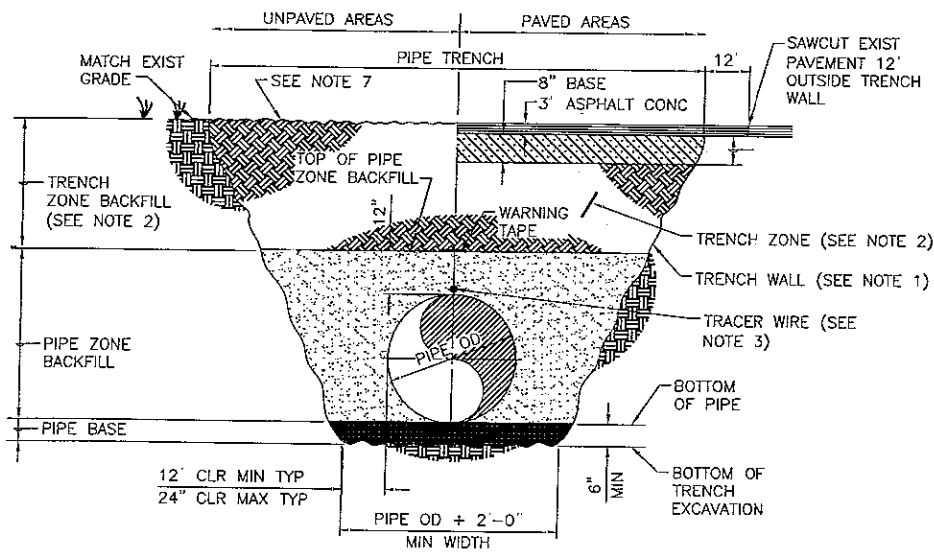
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RHODES HOMES ARIZONA, LLC

GOLDEN VALLEY RANCH WELL #1
DETAILS

MOHAVE COUNTY
ARIZONA


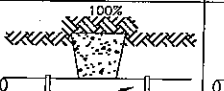




SHEET
WP2
4 OF 20 SHEETS
SCI PROJECT#
18499.07.03



- NOTES:
1. TRENCH SHALL MEET ALL CURRENT OSHA AND NEVADA STATE REQUIREMENTS FOR SAFETY
 2. TRENCH ZONE BACKFILL SHALL BE A MIN 48", MAX 72". AND 95% COMPACTED
 3. MIN 14 GAUGE COATED TRACER WIRE
 4. NO CONSTRUCTION VEHICLES WILL BE ALLOWED TO DRIVE OVER PIPELINE UNTIL HEIGHT OF BACKFILL IS 3' OVER TOP OF PIPE.
 5. MINIMUM CLEARANCE BETWEEN PIPE O.D. AND TRENCH WALL SHALL BE 12 INCHES FOR COMPACTED PIPE ZONE MATERIAL.
 6. FOR BACKFILL MATERIAL AND COMPACTION REQUIREMENTS SEE SPECIFICATIONS
 7. MOUND BACKFILL ABOVE PIPE SLOPE TO DRAIN AWAY. MAINTAIN EXISTING DRAINAGE PATTERN.

PIPE TRENCH DETAIL
SCALE: N T S.

1
WP3

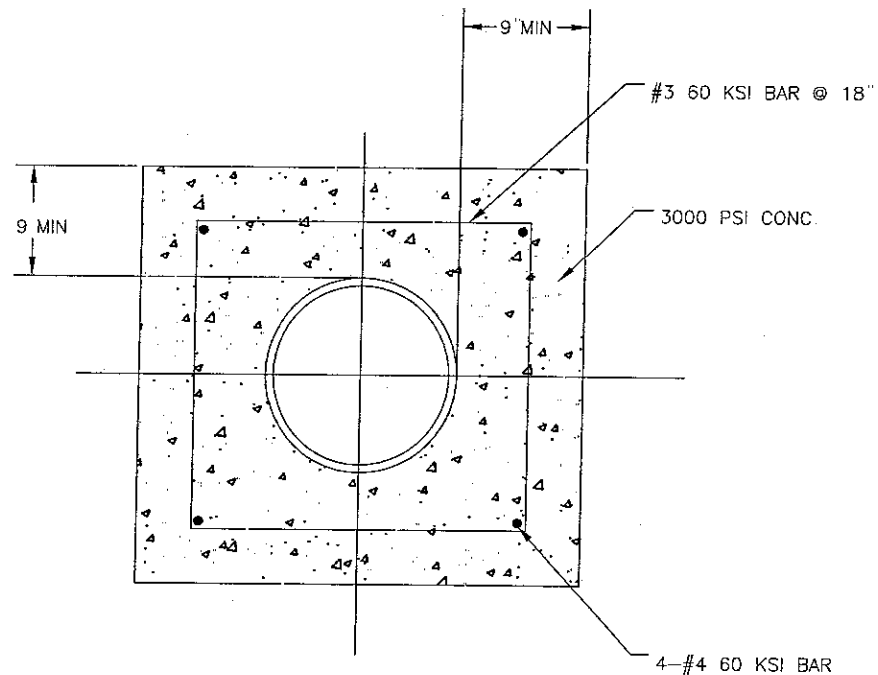
TYPE OF FITTING	CROSS W/PLUG	TEE W/PLUG	SECTION
TYPICAL INSTALLATION			
TYPE OF FITTING	90° BEND	45° THRU 11 1/4° BEND	TEE OR DEAD END
TYPICAL INSTALLATION			

TYPE OF FITTING	11.25" BEND	22.5" BEND	45° BEND	90° BEND	TEE OR PLUG
SIZE OF PIPE	4"	0.4	0.7	1.4	1.9
	6"	0.8	1.7	3.2	4.2
	8"	1.5	2.9	5.8	7.5
	10"	2.3	4.6	9.0	11.8
	12"	3.3	6.6	13.0	17.0
	14"	4.5	9.0	17.7	23.1
	16"	5.9	11.8	23.1	30.2
	18"	7.5	14.9	29.2	38.2

- NOTE:
1. ALL WORK MUST BE INSPECTED PRIOR TO BACKFILL.
 2. CONSTRUCT THURST BLOCKS W/2000 PSI CONCRETE—CURE MINIMUM 5 DAYS.
 3. AREAS ARE BASED ON 150 PSI TEST PRESSURE AND 1500 PSF BEARING CAPACITY.
 4. BEARING AREAS, VOLUMES, AND SPECIAL BLOCKING DETAILS SHOWN ON PLANS TAKE PRECEDENCE
 5. BLOCKS TO BE POUR AGAINST UNSTURBED SOIL.
 6. WRAP ALL METAL FITTINGS WITH 8-MIL POLYETHYLENE FILM AFTER APPLYING 2 FIELD COATS OF NO-OXIDE WAX TO NUTS & BOLTS BEFORE POURING THURST BLOCKS.
 7. INSTALLATIONS USING DIFFERENT PIPE, TEST PRESSURES, AND/OR BEARING CAPACITIES ADJUST AREAS ACCORDINGLY SUBJECT TO APPROVAL OF ENGINEER.
 8. CONTRACTOR SHALL ADJUST THURST BLOCKS IN AREAS WHERE TEST AND OPERATING PRESSURES EXCEED DESIGNED TEST PRESSURE.

THRUST BLOCKS
SCALE: N.T.S.

2
WP3

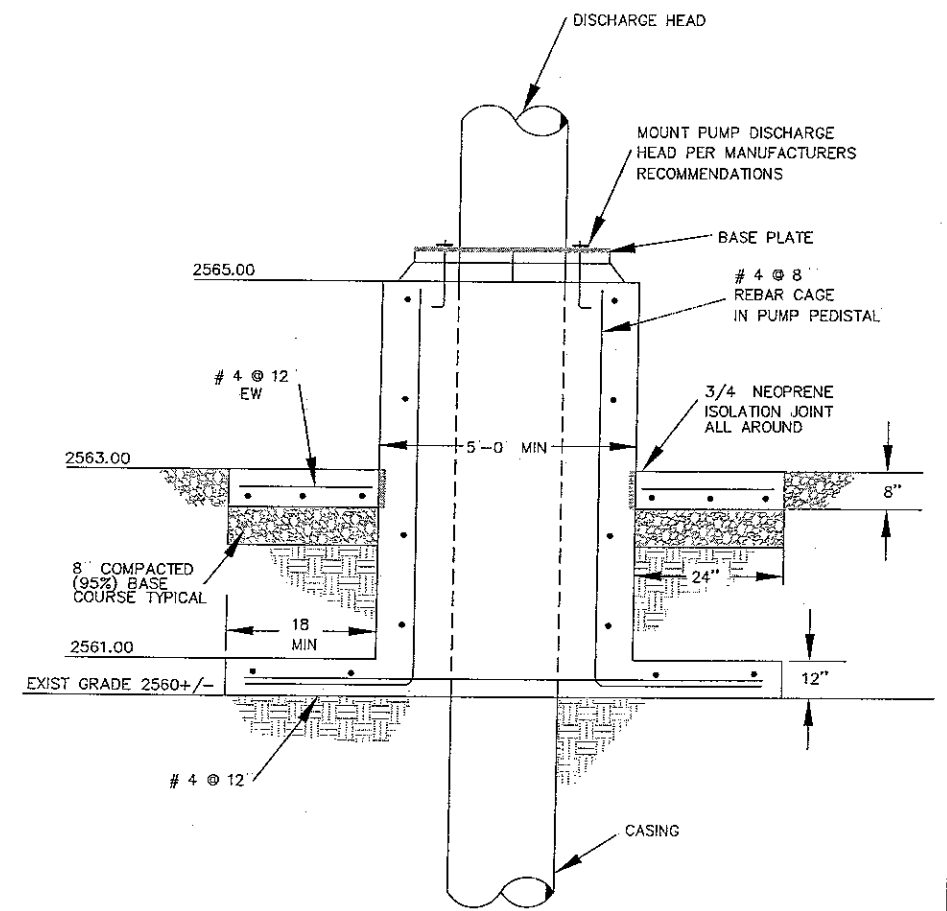
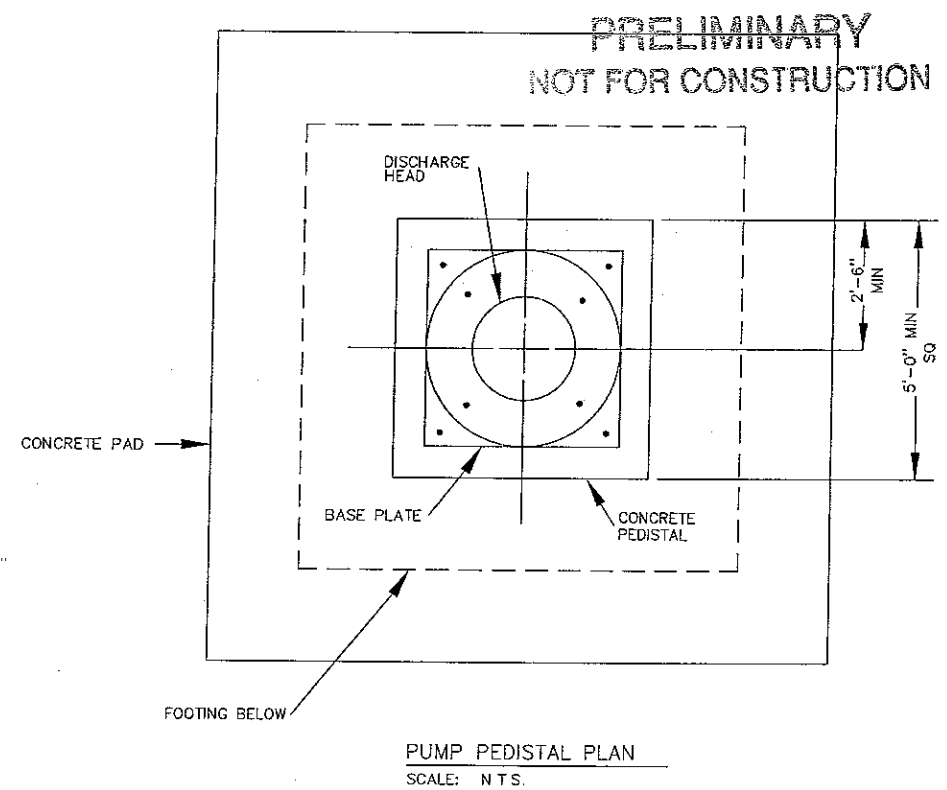


NOTE

1. CONCRETE SHALL BE POURED AGAINST UNDISTURBED EARTH

CONCRETE ENCASEMENT
SCALE: N.T.S.

4
WP3



PUMP PEDISTAL
SCALE: N T S.

3
WP3

[illegible]

SCALE (H) 1" = 20'
SCALE (V) NA
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DATE 02-01-2006

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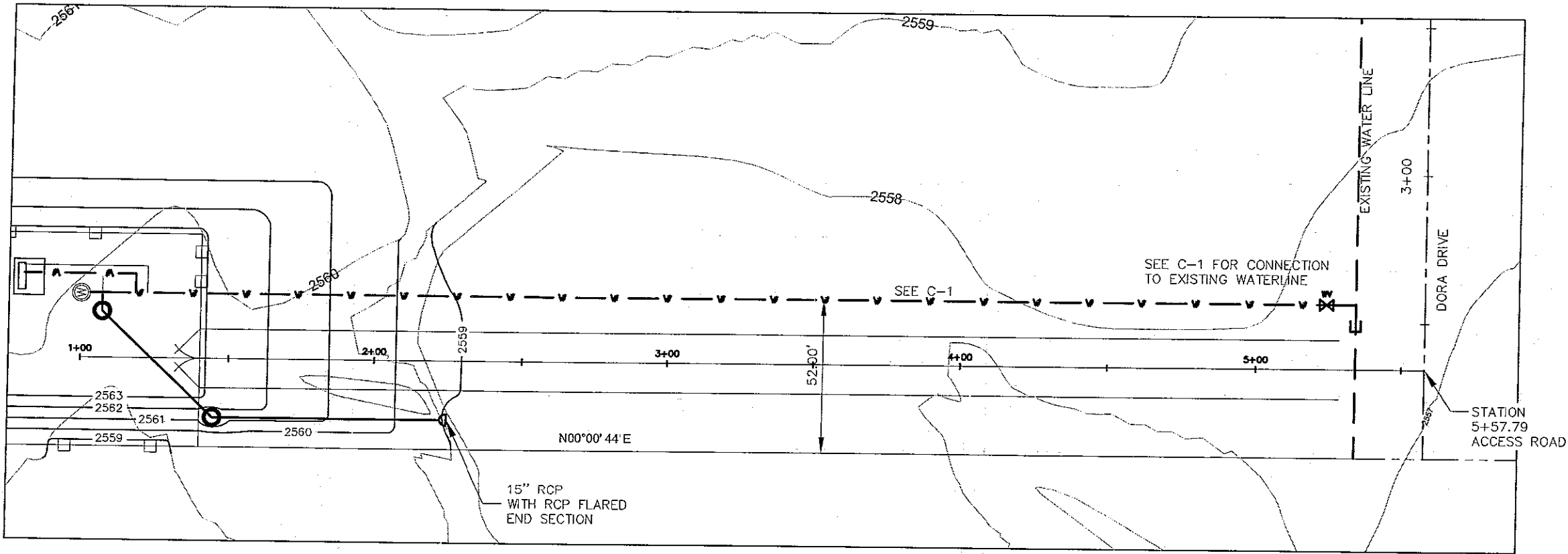
RHODES HOMES ARIZONA, LLC

GOLDEN VALLEY RANCH WELL #1
DETAILS

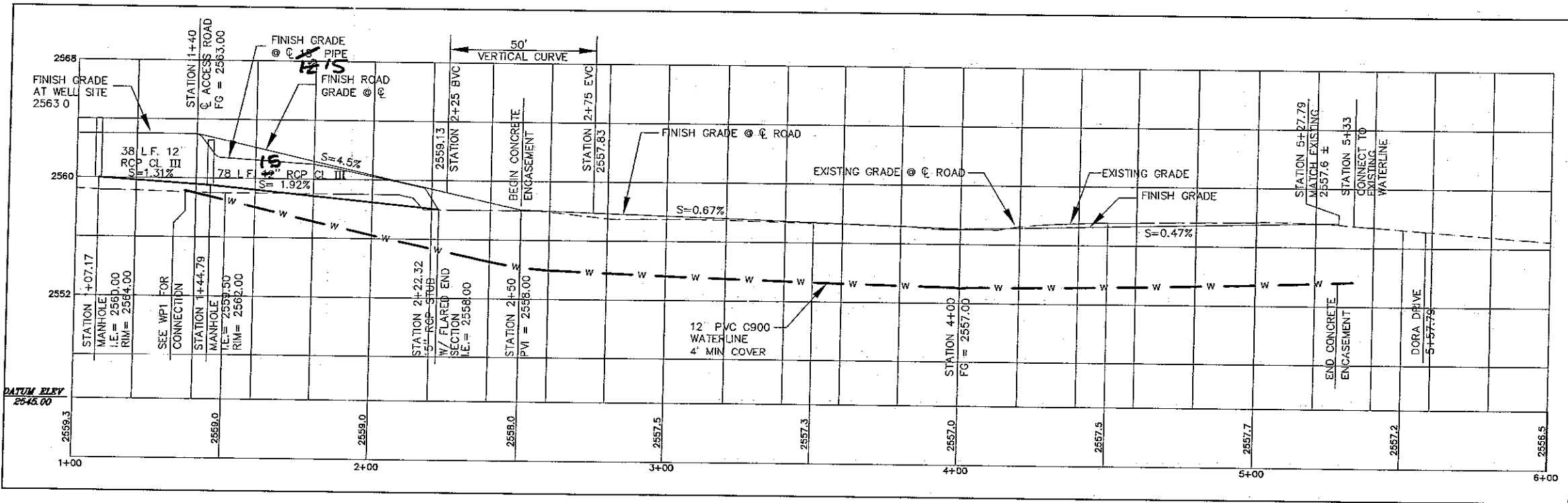
MOHAVE COUNTY

ARIZONA

SHEET
WP3
5 OF 20 SHEETS
SCI PROJECT#
18499.07.03



PLAN



PROFILE

NOTE:
ENCASE WATERLINE IN CONCRETE BELOW
WASH SEE 4-WP3 FOR ENCASMENT DETAIL.

PRELIMINARY
NOT FOR CONSTRUCTION

REGISTERED PROFESSIONAL ENGINEER
D. KIM SORENSON
43932
ARIZONA

DATE	DESCRIPTION	BY	APP'D
02-01-2006	CHECKED BY DKS		
	DRAWN BY MB		
	SCALE (V) NA		
	SCALE (H)		

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RHODES HOMES ARIZONA, LLC

GOLDEN VALLEY RANCH WELL #1
DISCHARGE PIPE PLAN AND PROFILE









































MOHAVE COUNTY ARIZONA

SHEET
PP1





















6 OF 20 SHEETS

SCI PROJECT#
18499.07.03
















SCHEMATIC DIAGRAM SYMBOLS

	CONTROL RELAY		2 POSITION SELECTOR SWITCH POSITION LEGEND: X=CLOSED O=OPEN
	TIME DELAY RELAY		3 POSITION SELECTOR SWITCH HAND - OFF - AUTO POSITION LEGEND: X=CLOSED O=OPEN
	ALARM RELAY		NORMALLY CLOSED PUSH BUTTON
	ELAPSED TIME METER		LOCKOUT STOP PUSH BUTTON
	MOTOR STARTER OR CONTACTOR COIL		NORMALLY OPEN PUSH BUTTON
	PHOTO CELL		EMERGENCY STOP PUSH BUTTON (MAINTAINED)
	BEACON ALARM LIGHT LETTER INDICATES COLOR R=RED, A=AMBER, B=BLUE G=GREEN		DISCONNECT SWITCH SHOWN WITH RATING AND NUMBER OF POLES
	PILOT LIGHT LETTER INDICATES COLOR R=RED, A=AMBER, B=BLUE G=GREEN		LIMIT OR POSITION SWITCH
	OUTPUT DV/DT FILTER		PRESSURE SWITCH HIGH
	HEATING ELEMENT		PRESSURE SWITCH LOW
	TRANSFORMER		FLOW SWITCH
	CURRENT TRANSFORMER		LEVEL FLOAT SWITCH
	GROUND CONNECTION		TIMER RELAY CONTACT INSTANTANEOUS CLOSE TIME DELAY OPEN
	GENERATOR		TIMER RELAY CONTACT NORMALLY OPEN TIME DELAY CLOSE
	HORN		TEMPERATURE SWITCH
	FULL VOLTAGE NON-REVERSING (FVNR) MOTOR STARTER OR CONTACTOR NUMBER DESIGNATES NEMA SIZE		FUSE
	NORMALLY OPEN CONTACT		FUSEHOLDER OR FUSEBLOCK
	NORMALLY CLOSED CONTACT		THERMAL OVERLOAD RELAY
	RTU OR PLC CONTACT		TERMINAL BLOCK
			DEVICE LOCATED AT REMOTE LOCATION
			CONDUIT SEALOFF

POWER SINGLE LINE DIAGRAM SYMBOLS

	JUNCTION BOX WITH POWER DISTRIBUTION BLOCK OR LUGS		AMPS POLES
	CIRCUIT BREAKER SHOWN WITH TRIP RATING AND NUMBER OF POLES		AMPS MCP POLES
	CONDUIT SEALOFF		MOTOR CIRCUIT PROTECTOR WITH TRIP RATING AND NUMBER OF POLES
	LTC CONNECTION		DISCONNECT SWITCH SHOWN WITH RATING AND NUMBER OF POLES
	MC CONNECTION		MOTOR MANAGEMENT RELAY
	BOND TO METALLIC WATER PIPE		SOLID STATE STARTER
	UTILITY METER		VARIABLE FREQUENCY DRIVE
	MOTOR, NUMBER DESIGNATES NEMA HORSEPOWER SIZE		HARMONIC FILTER
	FUSE		ELECTRONIC OVERLOAD RELAY
	FUSEHOLDER OR FUSEBLOCK		GROUND CONNECTION

SITE PLAN SYMBOLS

	TELEPHONE OUTLET		FIELD DEVICE
	SINGLE POLE SWITCH		GROUND ROD
	3 WAY SWITCH		DUPLEX RECEPTACLE
	4-WAY SWITCH		ANTENNA MAST
	MANUAL MOTOR STARTER		CONDUIT SEALOFF
	SPECIAL PURPOSE OR WELDING OUTLET		DISCONNECT SWITCH
	SMOKE DETECTOR		MOTOR
	THERMOSTAT		

CIRCUIT SCHEDULE LEGEND

AAA-BC	SEQUENCE NUMBER
TYPE C=CONTROL P=POWER	
DEVICE SERVED	

ELECTRICAL ABBREVIATIONS

A AMPERE	JB JUNCTION BOX	PNL PANEL
AFD ADJUSTABLE FREQUENCY DRIVE	L LO	PO PULSE OUTPUT
AFF ABOVE FINISHED FLOOR	LAN LOCAL AREA NETWORK	PPB POWER PULLBOX
AFG ABOVE FINISHED GRADE	LC LOOP CONTROLLER	PPG POUNDS PER GALLON
AI ANALOG INPUT	LCL LEVEL CONTROL	PPH POUNDS PER HOUR
AIC AMPS INTERRUPTING CAPACITY	LCP LOCAL CONTROL PANEL	PPM PARTS PER MILLION
AO ANALOG OUTPUT	LOS LOCK-OUT-STOP	PR PAIR
AS AIR SUPPLY	LOR LOCAL/OFF/REMOTE	PRES PRESSURE
ATS AUTOMATIC TRANSFER SWITCH	LS LEVE (i.e., FLOAT) SWITCH	PS PRESSURE SWITCH
BT BYPASS CONTACTOR	LIT LIQUIDTIGHT FLEXIBLE METAL CONDUIT	PSH PRESSURE SWITCH, HIGH
CB CIRCUIT BREAKER	M MOTOR	PSI POUNDS PER SQUARE INCH
CCW COUNTER CLOCKWISE	MA MANUAL/AUTO	PV PROCESS VARIABLE
CL2 CHLORINE	MA MILLIAMPS	RAS RETURN ACTIVATED SLUDGE
CON CONTACTOR	MAX MAXIMUM	RW RAW WATER
CPB CONTROL PULLBOX	MC MANUFACTURER'S CABLE	RF RADIO FREQUENCY
CU COPPER, BARE	MCC MAIN CIRCUIT BREAKER	RIO REMOTE INPUT OUTPUT
CV CONTROL VALVE	MCC MOTOR CONTROL CENTER	RS RAW SEWAGE
CW CLOCKWISE	MCP MOTOR CIRCUIT PROTECTOR	RSP RAW SEWAGE PUMP
DCS DISTRIBUTED CONTROL SYSTEM	MFR(S) MANUFACTURER(S)	RST RESET
DI DISCRETE INPUT	MGD MILLION GALLONS PER DAY	RTD RESISTANCE TEMPERATURE DETECTOR
DO DISTRIBUTION PANEL	MGL MILLIGRAMS PER LITER	RTU REMOTE TELEMETRY UNIT
DP DIFFERENTIAL VOLTAGE/TIME	MH MANHOLE	RWI REFLECTED WAVE TRAP
DWG DRAWING	MIN MINIMUM	SCA SHORT CIRCUIT AMPS
ETM ELAPSED TIME METER	MOM MOTOR OPERATED VALVE	SEQ SERVICE ENTRANCE EQUIPMENT
EOL ELECTRONIC OVERLOAD	MNR MOTOR MANAGEMENT RELAY	SES SERVICE ENTRANCE SECTION
EXIST EXISTING	MTU MASTER TELEMETRY UNIT	SLC SINGLE LOOP CONTROLLER
FA FOUL AIR	NEC NATIONAL ELECTRICAL CODE	SLOS START-LOCK-OUT-STOP
FC FAIL CLOSED	NECA NATIONAL ELECTRICAL CONTRACTOR	SNC SUBMERSIBLE MANUFACTURER CABLE
FE FLOW ELEMENT	ASSOCIATION	S02 SULFUR DIOXIDE
FLA FULL LOAD AMPS	N.C. NORMALLY CLOSED	SP SET POINT
FS FLOW SWITCH	N.O. NORMALLY OPEN	SPC SPARE CONDUIT
FVNR FULL VOLTAGE NON-REVERSING	NOTC NORMALLY OPEN TIMED CLOSED	SPR SPARE
FW FINISHED WATER	NPW NON-POTABLE WATER	SS START/STOP
GFI GROUND FAULT CIRCUIT INTERRUPTER	NS NITROGEN SUPPLY	SSS SOLID STATE STARTER (SOFT START)
GFP GROUND FAULT PROTECTION	NTS NOT TO SCALE	ST SHUNT TRIP
GND GROUND	NTU TURBIDITY	TC TELEPHONE CABLE
GPD GALLONS PER DAY	OF OVERFLOW	TS TEMPERATURE SWITCH
GPH GALLONS PER HOUR	OIT OPERATOR INTERFACE TERMINAL	TVSS TRANSIENT VOLTAGE SURGE
GPM GALLONS PER MINUTE	OL OVERLOAD	TYP TYPICAL
GRS GALVANIZED RIGID STEEL	OLR OVERLOAD RELAY	UG UNDERGROUND
H HI	OO ON/OFF (MAINTAINED)	UL UNDERWRITERS LABORATORIES
H2S HYDROGEN SULFIDE	OR OFF-REMOTE	UNO UNLESS NOTED OTHERWISE
HMI HUMAN MACHINE INTERFACE	OSC OPEN/STOP/CLOSE	V VOLT
HOA HAND-OFF-AUTO	P PHASE	VFD VARIABLE FREQUENCY DRIVE
HOR HAND-OFF-REMOTE	PB PULL BOX	W WATT, WIRE
I CURRENT	PCP PROCESS CONTROL PANEL	WAS WASTE ACTIVATED SLUDGE
IC INSTRUMENTATION CABLE	PCV PRESSURE CONTROL VALVE	WP WEATHERPROOF
ICR INTERMITTENT CYCLE REACTOR	PFR PHASE/POWER FAILURE RELAY	XFR TRANSFORMER
IO INPUT/OUTPUT	PI PULSE INPUT	XMR TRANSFORMER
ISC SHORT CIRCUIT CURRENT	PLC PROGRAMMABLE LOGIC CONTROLLER	XMT TRANSMITTER
	PLI PLANT INFLUENT	ZS POSITION (i.e. LIMIT) SWITCH
	PMP PUMP	

ELECTRICAL LINETYPES

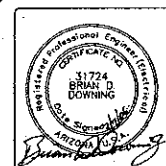
---	EXPOSED CONDUIT
---	EXISTING EXPOSED CONDUIT
---	UNDERGROUND CONDUIT
---	EXISTING UNDERGROUND CONDUIT
---	BARE COPPER GROUND CONDUCTOR
---	EXISTING OR FUTURE
---	NEW ELECTRICAL EQUIPMENT
---	DEMOLITION
---	DETAIL VIEW OR MATCHING
---	CAPPED CONDUIT STUB OUT

PXXX CXXX	GROUPED CONDUIT AND CIRCUIT IDENTIFICATION TAGS REFER TO THE POWER SINGLE-LINE, SCHEMATIC CONNECTION DIAGRAMS AND CIRCUIT SCHEDULE FOR CONDUIT SIZES AND CONTENTS P=POWER C=CONTROL
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GENERAL NOTES

- 1 THE COMPLETED INSTALLATION SHALL COMPLY WITH LATEST REVISION OF APPLICABLE FEDERAL, STATE, AND LOCAL CODES, ORDINANCES, AND REGULATIONS. THE CONTRACTOR SHALL OBTAIN NECESSARY PERMITS AND INSPECTIONS REQUIRED BY THE AUTHORITIES HAVING JURISDICTION. ALL WORK SHALL BE COMPLETED IN A NEAT, WORKMANLIKE MANNER IN ACCORDANCE WITH THE LATEST NECA STANDARDS OF INSTALLATION UNDER COMPETENT SUPERVISION. INSTALL GROUNDING PER NEC
- 2 VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND OTHER FACTORS, WHICH MAY AFFECT THE EXECUTION OF THE WORK. INCLUDE ALL RELATED COSTS IN THE INITIAL BID PROPOSAL
- 3 THE CONTRACTOR SHALL COORDINATE WORK WITH THE UTILITIES PROVIDING SERVICES ON THIS PROJECT, AND SHALL COMPLY WITH ALL THEIR INSTALLATION REQUIREMENTS
- 4 ALL MATERIALS SHALL BE NEW AND OF THE BEST QUALITY, MANUFACTURED IN ACCORDANCE WITH THE LATEST REVISION OF NEMA, ANSI, UL, OR OTHER APPLICABLE STANDARDS. THE USE OF MANUFACTURERS' NAMES, MODELS, AND NUMBERS IS INTENDED TO ESTABLISH STYLE QUALITY, APPEARANCE, USEFULNESS, AND BID PRICE
- 5 PROTECT ALL ELECTRICAL MATERIAL AND EQUIPMENT INSTALLED AGAINST DAMAGE BY OTHER TRADES, WEATHER CONDITIONS, OR ANY OTHER PREVENTABLE CAUSES. EQUIPMENT DAMAGED DURING SHIPPING OR CONSTRUCTION, PRIOR TO ACCEPTANCE BY THE ENGINEER OR THE OWNER, WILL BE REJECTED AS DEFECTIVE
- 6 LEAVE THE SITE CLEAN. REMOVE ALL DEBRIS, EMPTY CARTONS, TOOLS, CONDUIT, WIRE, SCRAPS, AND ALL MISCELLANEOUS SPARE EQUIPMENT AND MATERIALS USED IN THE WORK DURING CONSTRUCTION. ALL COMPONENTS SHALL BE FREE OF DUST, GRIT AND FOREIGN MATERIALS LEFT AS NEW BEFORE FINAL ACCEPTANCE OF WORK. DAMAGED PAINT AND FINISHES SHALL BE TOUCHED UP OR REPAINTED WITH MATCHING COLOR PAINT AND FINISH
- 7 CIRCUIT CONDUCTORS #6 AWG OR SMALLER SHALL BE THWN STRANDED COPPER. #4 AWG THROUGH #2 AWG SHALL BE XHHW STRANDED COPPER. #1 AWG OR LARGER SHALL BE XHHW-2 STRANDED COPPER. MINIMUM POWER CONDUCTOR SIZE SHALL BE #12 AWG WITH #12 AWG GROUND
- 8 UNDERGROUND CONDUITS SHALL BE SCHEDULE 40 PVC. MINIMUM CONDUIT DEPTH SHALL BE 24 INCHES. MINIMUM UNDERGROUND CONDUIT SIZE SHALL BE 1 INCH
- 9 CONDUITS SHALL BE MARKED AT EACH END WITH MATCHING NUMBERED BRASS TAGS. SPARE CONDUITS SHALL HAVE A PULL STRING INSTALLED, SECURED AND CAPPED
- 10 EXPOSED CONDUITS SHALL BE GALVANIZED RIGID STEEL (GRS) MINIMUM SIZE 3/4 INCH UNLESS OTHERWISE NOTED ON THE PLANS
- 11 SAFETY SWITCHES, ELECTRICAL DISTRIBUTION EQUIPMENT, CONTROL PANELS, AND OTHER ELECTRICAL DEVICES SHALL BE UL LISTED AND RATED FOR HEAVY DUTY SERVICE
- 12 WIRING DEVICES SHALL BE SPECIFICATION GRADE
- 13 THE CONTRACTOR IS RESPONSIBLE FOR MANAGING, SCHEDULING, DOCUMENTING, AND PERFORMING THE WORK SO THAT A COMPLETE ELECTRICAL, INSTRUMENTATION AND CONTROL SYSTEM FOR THE FACILITY IS PROVIDED. ACCURATE SHOP AND RECORD DRAWINGS, AND O&M MANUALS SHALL BE SUBMITTED PRIOR TO FINAL ACCEPTANCE OF THE WORK
- 14 TYPICAL DETAILS SHALL APPLY IN ALL CASES, WHETHER SPECIFICALLY REFERRED TO OR NOT

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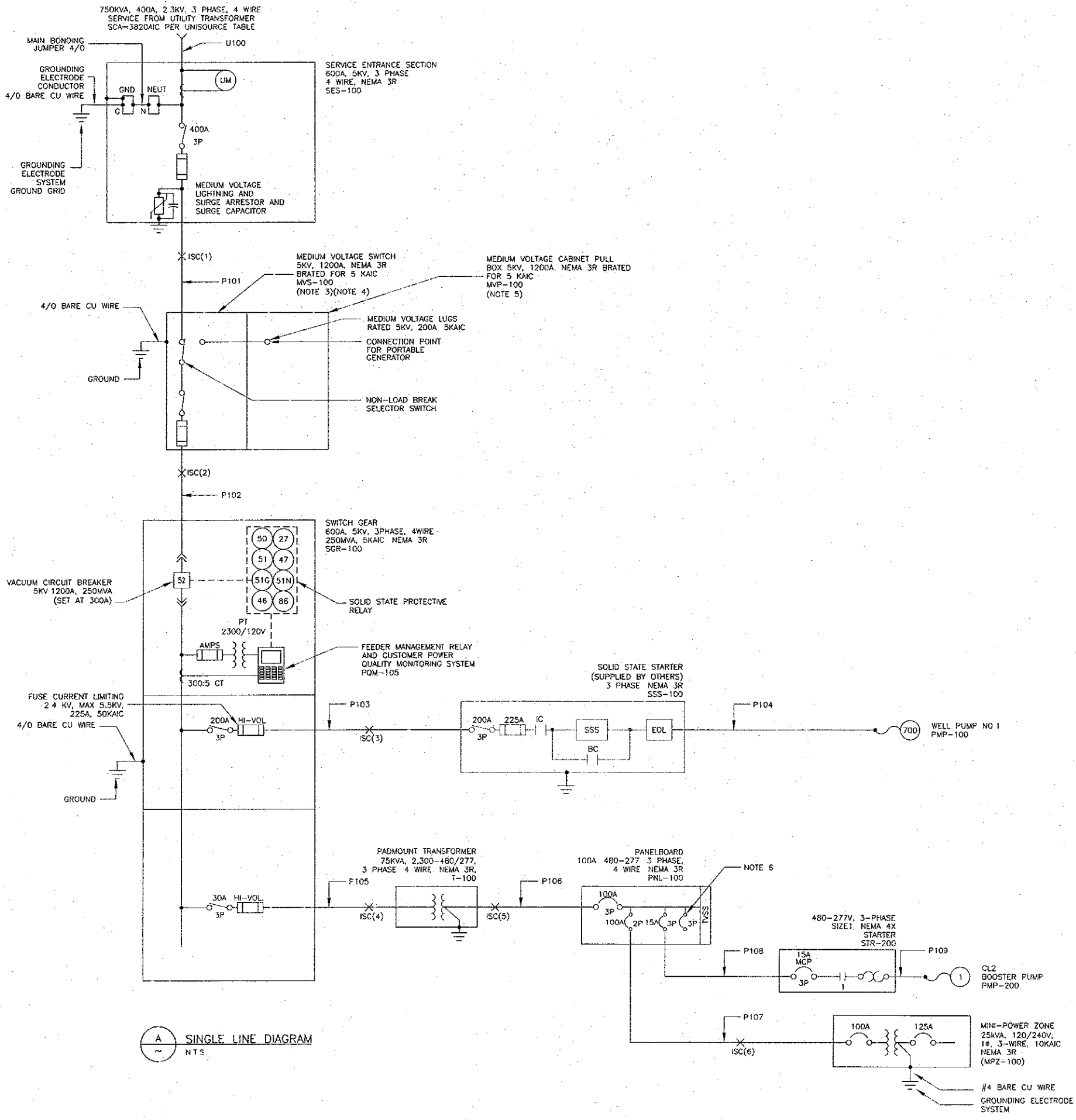
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RHODES HOMES ARIZONA, LLC

GOLDEN VALLEY RANCH WELL #1
STANDARD ELECTRICAL SYMBOLS AND
LEGEND
MOHAVE COUNTY ARIZONA



NOTES:

1. ALL SHORT CIRCUIT INTERRUPTING AND PROTECTING DEVICES SHALL HAVE A SHORT CIRCUIT INTERRUPTING RATING EQUAL TO OR GREATER THAN THE AVAILABLE SHORT CIRCUIT ON THE BUS
2. FUSES SHALL BE SIZED PER THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS
3. MEDIUM VOLTAGE SWITCH SHALL INCLUDE A MOTOR-ASSISTED SWITCH FOR MANUAL OPERATION
4. CONTRACTOR SHALL PROVIDE AUX CONTACTS FOR LOAD INTERRUPTER SWITCH POSITION INDICATION
5. CONTRACTOR SHALL PROVIDE MEDIUM VOLTAGE LUGS RATED FOR 5KV, 1200A, 5KAIC AND CONNECT THE LOADSIDE OF THE CABINET TO NORMALLY OPEN SIDE OF MANUAL TRANSFER SWITCH
6. FUTURE IRRIGATION PUMP CIRCUIT BREAKER SIZE IS YET TO BE DETERMINED

CALLOUT NO.	NO. SETS	CONDUIT SIZE	CIRCUIT CONDUCTORS	CIRCUIT NO.'s
P101	1	4"	3 - 1/0, MV-105 TYPE, #6 GND	MVS100-P1
P102	1	4"	3 - 1/0, MV-105 TYPE, #6 GND	SGR100-P1
P103	1	3"	3 - 1/0, MV-105 TYPE, #6 GND	SSS100-P1
P104	1	3"	3 - 1/0, MV-105 TYPE, #6 GND	PMP100-P1
P105	1	3"	3 - # 8, MV-105 TYPE, #8 GND	T100-P1
P106	1	2"	4 - 1/0, #6 GND	PNL100-P1
P107	1	1.5"	3 - # 2, #4 GND	MPZ100-P1
P108	1	1"	3 - # 12, #12 GND	STR200-P1
P109	1	.75"	3 - # 12, #12 GND	PMP200-P2

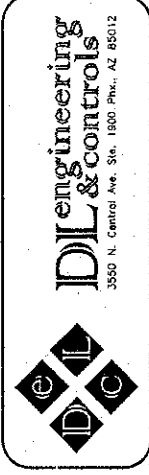
B CIRCUIT SCHEDULE
NTS

CIRCUIT/DESCRIPTION	KVA	HP	FLA
MOTOR LOADS			
WELL PUMP MOTOR PMP-100		700.0	158.0
NON-MOTOR LOADS			
THREE PHASE TRANSFORMER	75.0		18.0
SUBTOTAL			174.0
+ 25% OF LARGEST MOTOR			39.0
TOTAL AMPS @ 2400V/3PHASE			213.0
EXISTING SERVICE SIZE (AMPS)			400.0

C LOAD CALCULATIONS
NTS

LIGHTING FIXTURE SCHEDULE				
TYPE	SYMBOL	DESCRIPTION	MOUNTING	MANUFACTURER
1		120V 4' ENCLOSED AND GASKETED FLUORESCENT FIXTURE, (2) 32W 18 LAMPS, AND (1) ELECTRONIC T-8 BALLAST SUITABLE FOR CORROSIVE LOCATIONS.	SURFACE	110LOPIANIC PRISMATITE WITH PRISMATITE CORROSION RESISTANT FINISH OR EQUAL
2		120V, FLOOD LIGHT, ONE PIECE DIE CAST ALUMINUM CYLINDRICAL HOUSING, HEAVY CAST ALUMINUM TWIN KNOB SWIVEL SPECULAR ALZAM REFLECTOR, UL LISTED FOR WET LOCATIONS, (1) 175W METAL HALIDE LAMP RATED FOR UNIVERSAL BURNING POSITION, NUMBER OF HEADS AS PER DETAIL A BELOW.	3-FIXTURE MOUNT 12 POLE	GARDCO DF12 SERIES, ISI DORAL SERIES, KIM AFL SERIES, OR EQUAL FULL CUT-OFF LIGHT DISTRIBUTION PATTERN.

D LIGHT FIXTURE SCHEDULE
NTS

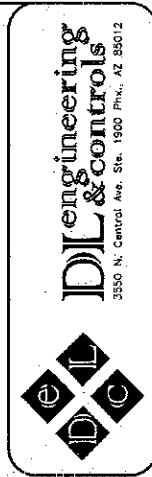


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RHODES HOMES ARIZONA, LLC
GOLDEN VALLEY RANCH WELL #1
SINGLE LINE AND LOAD CALCULATIONS
MOHAVE COUNTY ARIZONA

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PANEL TAG No. PNL-100										NEMA TYPE/MOUNTING 3R/SURFACE																					
LOCATION ELECTRICAL EQUIPMENT LINE UP										MAIN DEVICE 100A MCB																					
BUS AMPACITY 100										AIC RATING 10K																					
VOLTS 480										FED FROM T-100																					
PHASE/WIRE CONFIG. 3-PHASE/4-WIRE										ACCESSORIES TVSS																					
REMARKS										NOTE 1: PROVIDE BREAKER PER MANUF. RECOMMENDATIONS																					
LOAD VA														LOAD VA																	
PHASE A	PHASE B	PHASE C	LOAD DESCRIPTION	WIRE SIZE	DEMAND	BKR	BKR NO.	BKR	DEMAND	WIRE SIZE	LOAD DESCRIPTION	PHASE A	PHASE B	PHASE C																	
560			CHLORINE BOOSTER PUMP	#12	1.00		1 2	100/2	1.24	#4	MINI POWER ZONE	5532																			
	560		CHLORINE BOOSTER PUMP	#12	1.00	15/3	3 4		1.24	#4	MINI POWER ZONE		3062																		
		560	CHLORINE BOOSTER PUMP	#12	1.00		5 6	20/1			SPACE			0																	
0			SPACE			20/1	7 8				SPACE	0																			
	0		SPACE			20/1	9 10				SPACE		0																		
		0	SPACE			20/1	11 12				SPACE			0																	
0			SPACE			15/3	13 14				SPACE	0																			
	0		SPACE			15/3	15 16				SPACE		0																		
		0	SPACE			15/3	17 18				SPACE			0																	
0			SPACE				19 20				(FUTURE IRRIGATION PUMP)	0																			
	0		SPACE				21 22				(FUTURE IRRIGATION PUMP)		0																		
		0	SPACE				23 24				(FUTURE IRRIGATION PUMP)			0																	
0			SPACE				25 26				TVSS (NOTE 1)	0																			
	0		SPACE				27 28				TVSS (NOTE 1)		0																		
		0	SPACE				29 30				TVSS (NOTE 1)			0																	
560	560	560	CONNECTED VA								CONNECTED VA	5532	3062	0																	
560	560	560	DEMAND VA								DEMAND VA	6860	3797	0																	
Each branch circuit phase conductor shall have an equipment grounding conductor sized per N.E.C. Article 250														TOTAL PANEL CONNECTED LOAD			TOTAL PANEL DEMAND LOAD			TOTAL DEMAND FACTOR			TOTAL CONNECTED VA - PER PHASE			TOTAL DEMAND VA - PER PHASE			TOTAL DEMAND PHASE AMPS		
														10274			12.337			120%			6092			7420			28.8		
														12.36			14.84						3522			4357			15.7		
														14.84									560			580			2.0		

A 3-PHASE PANEL SCHEDULE
NTS

PANEL TAG No. MPZ-100										NEMA TYPE/MOUNTING 3R/SURFACE									
LOCATION ELECTRICAL EQUIPMENT LINEUP										MAIN DEVICE 125A MCB									
BUS AMPACITY 125A										AIC RATING 10K									
VOLTS PHASE, WIRE 240 V/120V 1-PHASE, 3-WIRE										FED FROM PNL-100									
REMARKS 25KVA MINI-POWER ZONE										ACCESSORIES									
LOAD VA												LOAD VA							
PHASE A	PHASE B	LOAD DESCRIPTION	WIRE SIZE	DEMAND	BKR	BKR NO.		BKR	DEMAND	WIRE SIZE	LOAD DESCRIPTION	PHASE A	PHASE B						
3600		CHLORINATION HOUSE- BEVCO	#6	1.25	30/1	1	2	20/2	1.25	#12	RTU CABINET AC UNIT NO.1	771							
	20	WELL SITE FLOWMETER	#12	1.25	20/1	3	4		1.25	#12	RTU CABINET AC UNIT NO.1		771						
0		SPARE			20/1	5	6	20/1	1.25	#12	POLE LIGHTING	0							
	360	SITE RECEPTACLES	#12	1.00	20/1	7	8	20/1	1.25	#12	SITE LIGHTING		960						
0		SPARE			20/2	9	10	20/1	1.25	#12	POWER QUALITY METER	240							
	0	SPARE				11	12	20/1	1.25	#12	POLE RECEPTACLE		180						
771		SSS AC	#12	1.25	20/2	13	14	20/1	1.25	#12	RTU CABINET	150							
	771	SSS AC	#12	1.25		15	16	20/1			SPARE		0						
0		SPARE			20/1	17	18	20/1			SPARE	0							
	0	SPACE				19	20				SPACE		0						
0		SPACE				21	22				SPACE	0							
	0	SPACE				23	24				SPACE		0						
4371	1151	CONNECTED VA											1161	1911					
5420	1427	DEMAND VA											1440	2370					
Each branch circuit phase conductor shall have an equipment grounding conductor sized per N.E.C. Article 250			TOTAL PANEL CONNECTED LOAD		VA		AMPS		TOTAL CONNECTED VA - PER PHASE			5532		3062					
					8594		35.81		TOTAL DEMAND VA - PER PHASE			6860		3797					
			TOTAL PANEL DEMAND LOAD		10657		44.40		TOTAL DEMAND PHASE AMPS			57.2		31.6					
			PANEL DEMAND FACTOR		124%														

B 1-PHASE PANEL SCHEDULE
NTS

SHORT CIRCUIT CALCULATIONS	
DEFINITIONS	FORMULAS
ISC = SHORT CIRCUIT CURRENT (AMPS)	3 PH: $f = \frac{1.732 \times L \times I_{sc}}{N \times C \times V_{L-L}}$
N = NUMBER OF CONDUCTORS/PHASE	1 PH: $f = \frac{2 \times L \times I_{sc}}{N \times C \times V_{L-L}}$
L = LENGTH OF CONDUCTOR (FEET)	
C = CONSTANT FROM TABLE OF "C"	
I _{sc} = AVAILABLE SHORT-CIRCUIT AMPS	1 PH X ² MR: $f = \frac{I_{sc} \times V_p \times \% Z}{100,000 \times KVA}$
V _{L-L} = LINE TO LINE VOLTAGE (VOLTS)	
V _p = PRIMARY VOLTAGE	
V _s = SECONDARY VOLTAGE	
% Z = TRANSFORMER % IMPEDANCE	

ISC(1)	$f_1 = \frac{1.732 \times 25 \times 4.924}{1 \times 9033 \times 2300} = 0.0103$ $M = \frac{1}{1 + 0.0103} = 0.9898$ $ISC(1) = 4.924 \times 0.9898 = 4.874 \text{ A}$
ISC(2)	$f_2 = \frac{1.732 \times 25 \times 4.874}{2 \times 9033 \times 2300} = 0.0051$ $M = \frac{1}{1 + 0.0051} = 0.9949$ $ISC(2) = 4.874 \times 0.9949 = 4.849 \text{ A}$
ISC(3)	$f_3 = \frac{1.732 \times 25 \times 4.849}{1 \times 9033 \times 2300} = 0.0101$ $M = \frac{1}{1 + 0.0101} = 0.99$ $ISC(3) = 4.849 \times 0.99 = 4.801 \text{ A}$
ISC(4)	$f_4 = \frac{1.732 \times 25 \times 4.801}{1 \times 1555 \times 2300} = 0.0581$ $M = \frac{1}{1 + 0.0581} = 0.9451$ $ISC(4) = 4.801 \times 0.9451 = 4.537 \text{ A}$
ISC(5) TRANSFORMER (T-100) SECONDARY (ISC(5))	$f_5 = \frac{3.583 \times 4157 \times 3}{100000 \times 75} = 6.958$ $M = \frac{1}{1 + 6.958} = 0.144$ $V_p/V_s = \frac{2400}{480} = 5$ $ISC(5) = 3.583 \times 0.144 \times 5 = 2.580 \text{ A}$
ISC(6)	$f_6 = \frac{2 \times 25 \times 2.580}{2 \times 3825 \times 240} = 0.0703$ $M = \frac{1}{1 + 0.0703} = 0.9343$ $ISC(6) = 2.580 \times 0.9343 = 2.410 \text{ A}$

C SHORT CIRCUIT CALCULATIONS
NTS

SCALE (H) NONE
SCALE (V) NONE
DRAWN BY GAF
CHECKED BY BDD
DATE 3/7/2006

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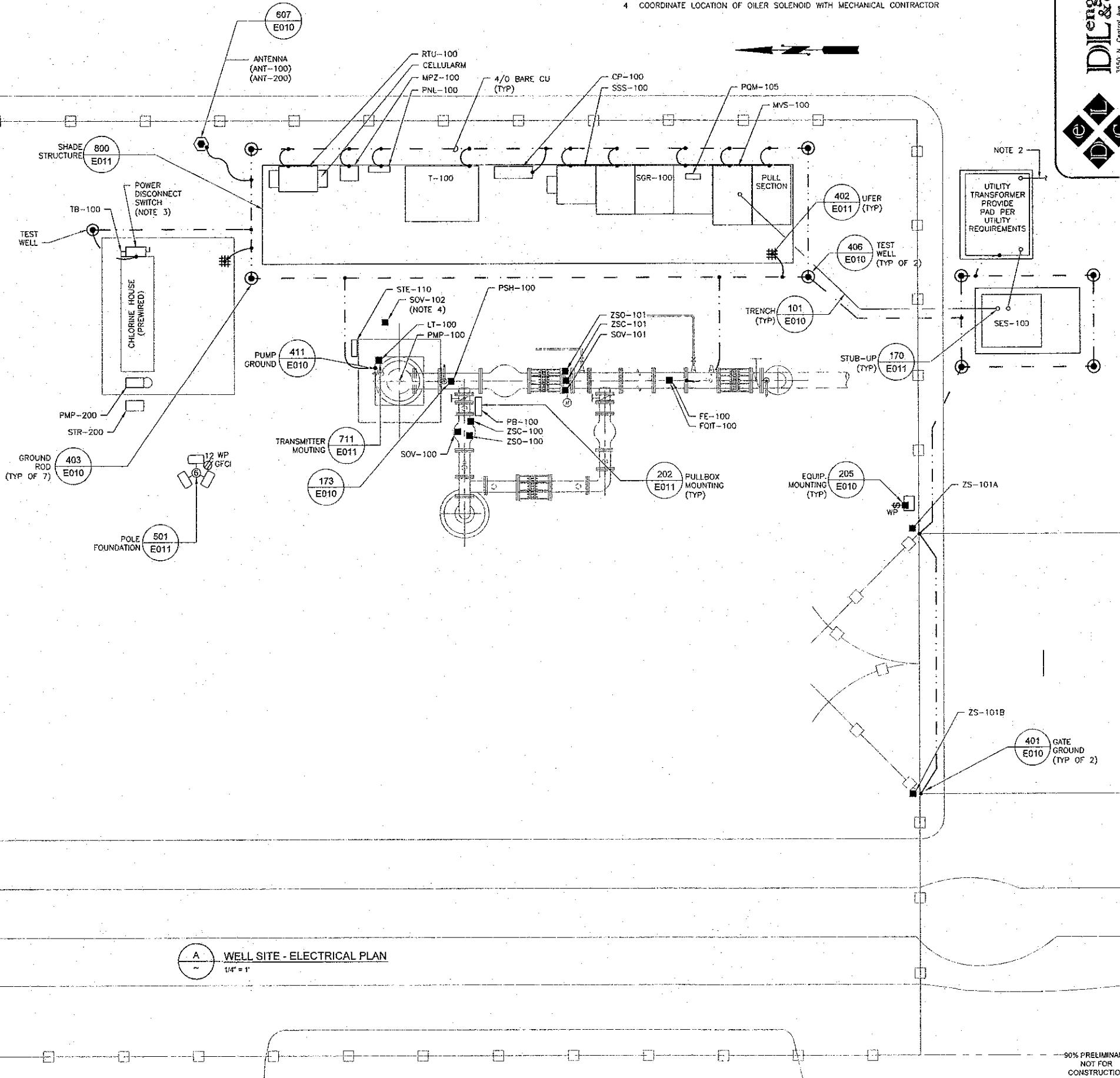
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ARIZONA

RHODES HOMES ARIZONA, LLC
GOLDEN VALLEY RANCH WELL #1
PANEL SCHEDULE AND SHORT
CIRCUIT CALCS
MOHAVE COUNTY ARIZONA

SHEET
E003
9 OF 20 SHEETS
SCI PROJECT#
18449.07.03

NOTES

1. PROVIDE AND INSTALL A MANUFACTURER'S 30 AMP EIGHT-SPACE PANELBOARD TO PROVIDE SERVICE FOR ENCLOSURE ELECTRICAL LOADS AS WELL AS LEAK DETECTOR RECEIVER POWER SUPPLY.
2. COORDINATE UTILITY TRENCH CONDUIT AND PAD PRIOR TO PERFORMING ANY WORK
3. CHLORINE HOUSE IS SUPPLIED AS A PREWIRED UNIT IT WILL REQUIRE 1Ø POWER AND SIGNAL/ALARM CIRCUITS TO RTU
4. COORDINATE LOCATION OF OILER SOLENOID WITH MECHANICAL CONTRACTOR



DATE	BY	CHK	APP

SCALE (H) 1/4"=1'
SCALE (V) 1/4"=1'
DRAWN BY GAF
CHECKED BY BDO
DATE 3/7/2006

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RHODES HOMES ARIZONA, LLC

**GOLDEN VALLEY RANCH WELL #1
POWER AND GROUNDING PLAN**

MOHAVE COUNTY ARIZONA

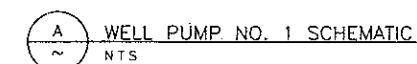
SHEET
E004
10 OF 20 SHEETS

SCI PROJECT #
18449.07.03

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1. PLC WILL OUTPUT A START/STOP COMMAND WHICH CORRESPONDS TO A PREDETERMINED TANK LEVEL START FILL/STOP FILL SETPOINT. PLC WILL SEND A STOP COMMAND ON LOSS OF COMMUNICATIONS BETWEEN WELL NO. 1 AND RESERVOIR NO. 1
2. TYPICAL SCHEMATIC DIAGRAMS ARE INTENDED TO REFLECT THE GENERAL CONTROL STRATEGY. ACTUAL CIRCUITRY MAY VARY FOR SPECIFIC EQUIPMENT SUPPLIED. THE NUMBER AND TYPE OF DEVICES SHALL BE FURNISHED AS REQUIRED FOR PROPER OPERATION OF THE EQUIPMENT.
3. CONTROL POWER TRANSFORMERS (CPT) SHALL BE ADEQUATELY SIZED AND SHALL BE PROVIDED WITH PROPERLY SIZED FUSES FOR BOTH THE PRIMARY AND SECONDARY WINDINGS.
4. CONTROL FUSES SHALL BE ADEQUATELY SIZED PER THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
5. CHLORINE BOOSTER PUMP SHALL RUN WHILE WELL IS RUNNING AND RESERVOIR VALVE IS OPEN. REFERENCE DRAWING E007 FOR MORE INFORMATION.
6. ALL COMPONENTS, EXCEPT FIELD DEVICES, ARE LOCATED IN CP-100 ROUTE CONTROL CIRCUITS AS REQUIRED BETWEEN SSS-100 AND CP-100.



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[illegible]

SCALE (V) NONE
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GOLDEN VALLEY RANCH WELL #1
SCHEMATIC/CONNECTION
COUNTY DIAGRAM - SHEET 1
ARIZONA

PERSONAL INFORMATION

SHEET
E005
1 OF 20 SHEETS
SCI PROJECT#
18449.07.03

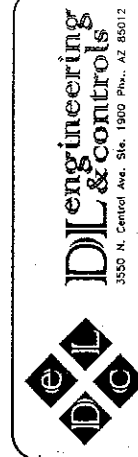


- 1 TYPICAL SCHEMATIC DIAGRAMS ARE INTENDED TO REFLECT THE GENERAL CONTROL STRATEGY. ACTUAL CIRCUITRY MAY VARY FOR SPECIFIC EQUIPMENT SUPPLIED. THE NUMBER AND TYPE OF DEVICES SHALL BE FURNISHED AS REQUIRED FOR PROPER OPERATION OF THE EQUIPMENT
- 2 CONTROL FUSES SHALL BE ADEQUATELY SIZED PER THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS
- 3 CONNECTIONS TO PLC INPUTS AND OUTPUTS ARE SHOWN IN A SIMPLIFIED MANNER. REFERENCE TYPICAL I/O CONNECTION DIAGRAMS IN RTU DESIGN PACKAGE FOR ADDITIONAL INFORMATION
- 4 CHLORINE BOOSTER PUMP SHALL RUN WHILE WELL IS RUNNING AND RESERVOIR VALVE IS OPEN. REFERENCE DRAWING EG05 FOR MORE INFORMATION

CIRCUIT SCHEDULE	
CIRCUIT NO.	CONDUCTORS
CP100-C1	18 - #14, #14 GND
SSS100-C2	4 - #14, #14 GND
CP100-C3	2 - #14, #14 GND
CP100-C2	10 - #14, #14 GND
CP100-C4	2 - #14, #14 GND
ZSO100-C1	2 - #14, #14 GND
ZSC100-C1	2 - #14, #14 GND
ZSO101-C1	2 - #14, #14 GND
ZSC101-C1	2 - #14, #14 GND
PSH100-C1	2 - #14, #14 GND
SOV100-C1	2 - #14, #14 GND
SOV101-C1	2 - #14, #14 GND
SOV102-C1	2 - #14, #14 GND
SSS100-C1	10 - #14, #14 GND

B WELL PUMP NO.1 CIRCUIT SCHEDULE

WELL PUMP NO.1 CONNECTION DIAGRAM

[illegible]

SCALE (H) NONE
SCALE (V) NONE
DRAWN BY GAF
CHECKED BY BDD
DATE 3/7/2006

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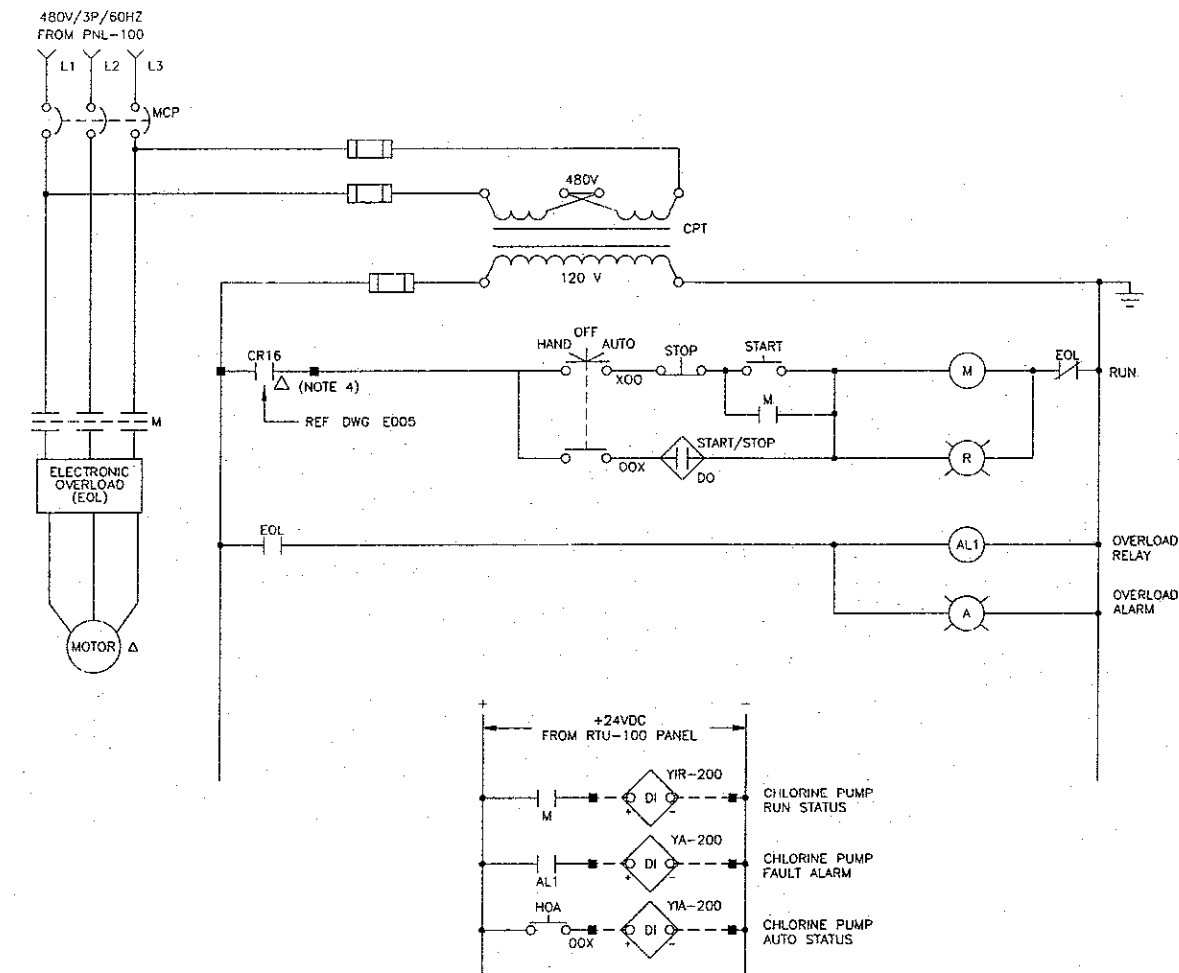
GOLDEN VALLEY RANCH WELL #1
SCHEMATIC/CONNECTION DIAGRAM
YAVAPAI COUNTY - SHEET 2
ARIZONA

MOHAVE COUNTY SHEET 12 ARIZONA

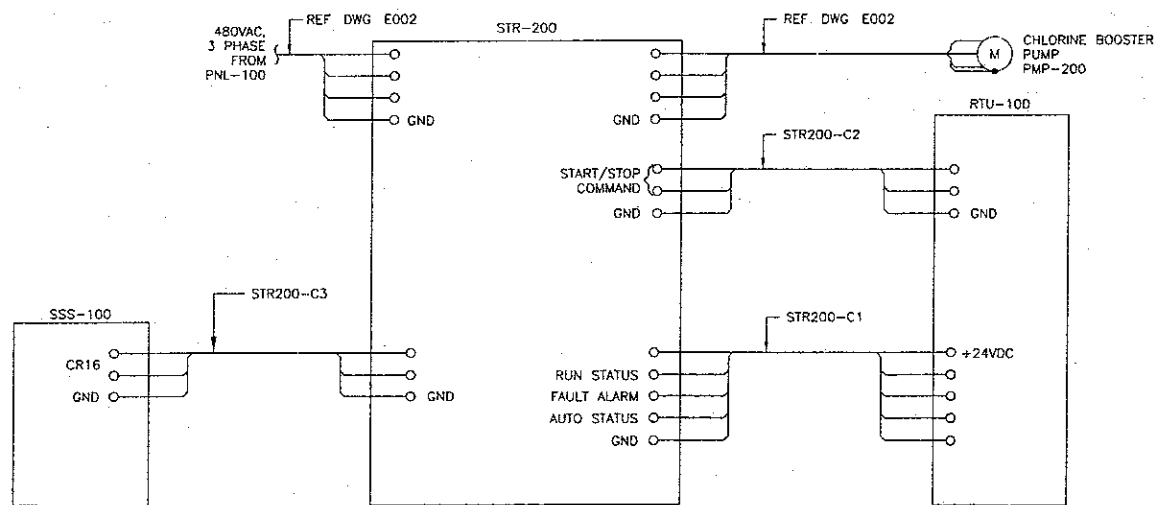
SHEET
E006
2 OF 20 SHEETS

SCI PROJECT
18449.07.03

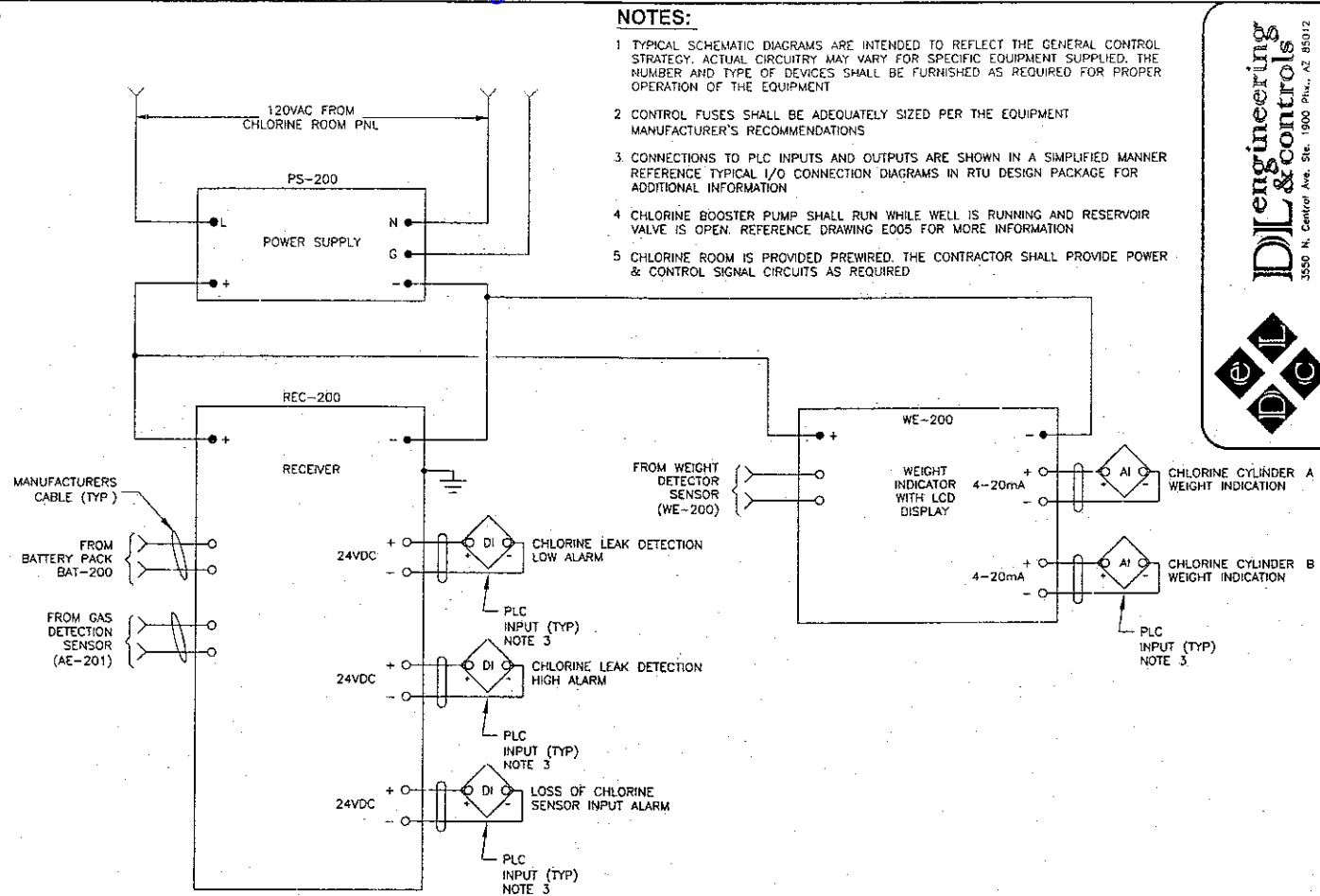
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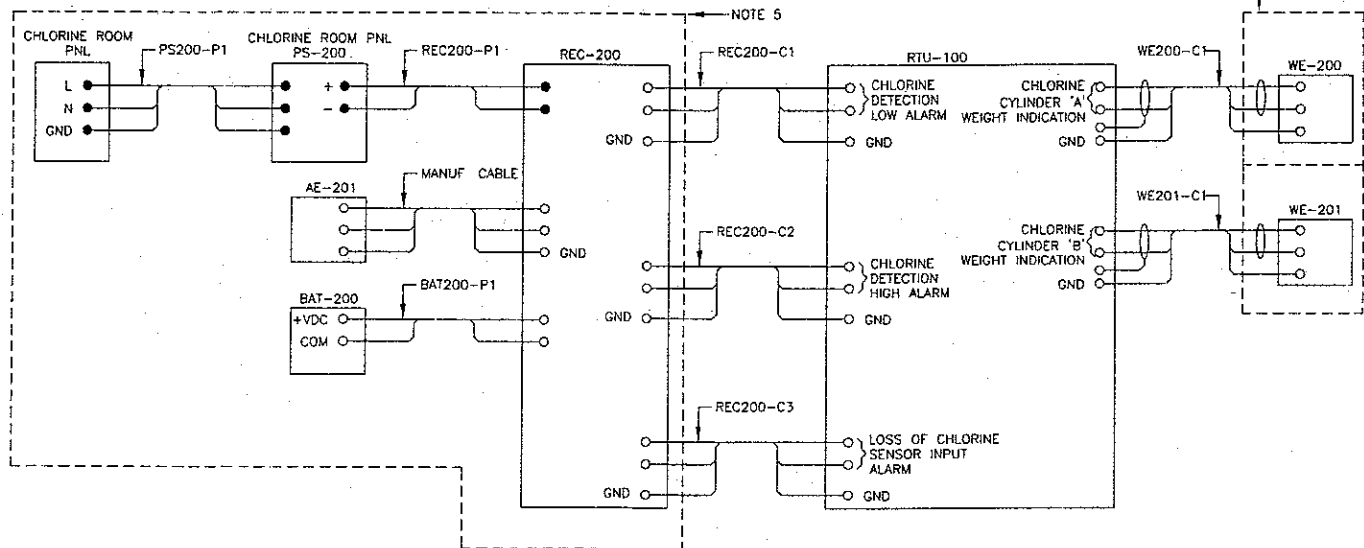
A CHLORINE BOOSTER PUMP SCHEMATIC
NTS



A1 CHLORINE BOOSTER PUMP CONNECTION DIAGRAM
NTS



B CHLORINATOR LEAK DETECTOR SCHEMATIC
NTS

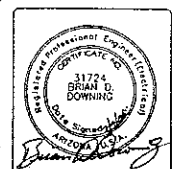


B1 CHLORINATOR LEAK DETECTOR CONNECTION DIAGRAM
NTS

CIRCUIT SCHEDULE	
CIRCUIT NO.	CONDUCTORS
STR200-C1	4 - #14, #14 GND
STR200-C2	2 - #14, #14 GND
STR200-C3	2 - #14, #14 GND
REC200-C1	2 - #14, #14 GND
REC200-C2	2 - #14, #14 GND
REC200-C3	2 - #14, #14 GND
REC200-P1	2 - #12, #12 GND
AE200-C1	1 - IC, #14 GND
BAT200-P1	2 - #14, #14 GND
PS200-P1	2 - #12, #12 GND
WE200-C1	1 - IC, #14 GND
WE201-C1	1 - IC, #14 GND

C CIRCUIT SCHEDULE
NTS

- NOTES:
1. TYPICAL SCHEMATIC DIAGRAMS ARE INTENDED TO REFLECT THE GENERAL CONTROL STRATEGY. ACTUAL CIRCUITRY MAY VARY FOR SPECIFIC EQUIPMENT SUPPLIED. THE NUMBER AND TYPE OF DEVICES SHALL BE FURNISHED AS REQUIRED FOR PROPER OPERATION OF THE EQUIPMENT.
 2. CONTROL FUSES SHALL BE ADEQUATELY SIZED PER THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
 3. CONNECTIONS TO PLC INPUTS AND OUTPUTS ARE SHOWN IN A SIMPLIFIED MANNER. REFERENCE TYPICAL I/O CONNECTION DIAGRAMS IN RTU DESIGN PACKAGE FOR ADDITIONAL INFORMATION.
 4. CHLORINE BOOSTER PUMP SHALL RUN WHILE WELL IS RUNNING AND RESERVOIR VALVE IS OPEN. REFERENCE DRAWING E005 FOR MORE INFORMATION.
 5. CHLORINE ROOM IS PROVIDED PREWIRED. THE CONTRACTOR SHALL PROVIDE POWER & CONTROL SIGNAL CIRCUITS AS REQUIRED.

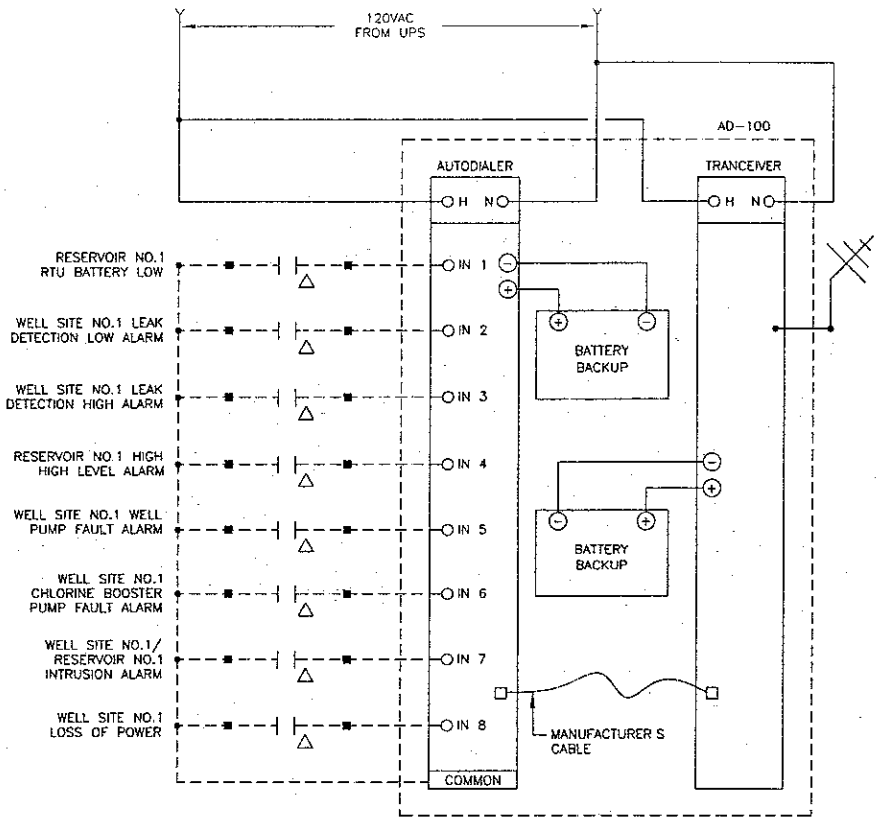


SCALE (H): NONE	SCALE (V): NONE	DRAWN BY: GAF	CHECKED BY: BDD	DATE: 3/7/2006
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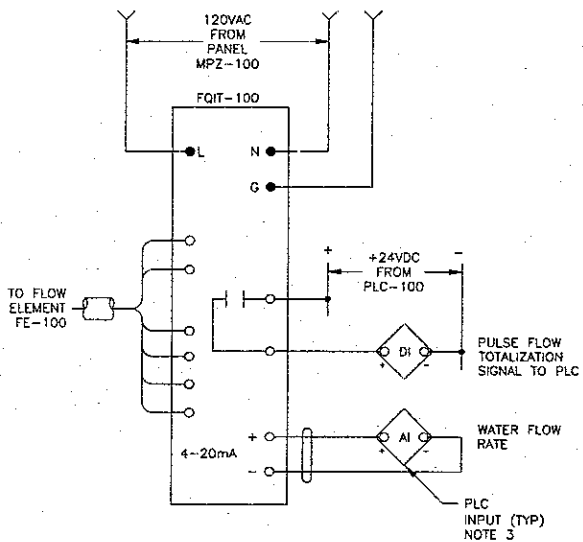
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RHODES HONES ARIZONA, LLC
GOLDEN VALLEY RANCH WELL #1
SCHEMATIC/CONNECTION DIAGRAM
MOHAVE COUNTY - SHEET 3

DWG FILE: 11750_E007.dwg 8:08am PLOTTED: Mar 07, 2008 gfr



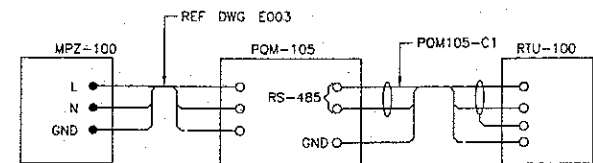
B AUTODIALER SCHEMATIC DIAGRAM



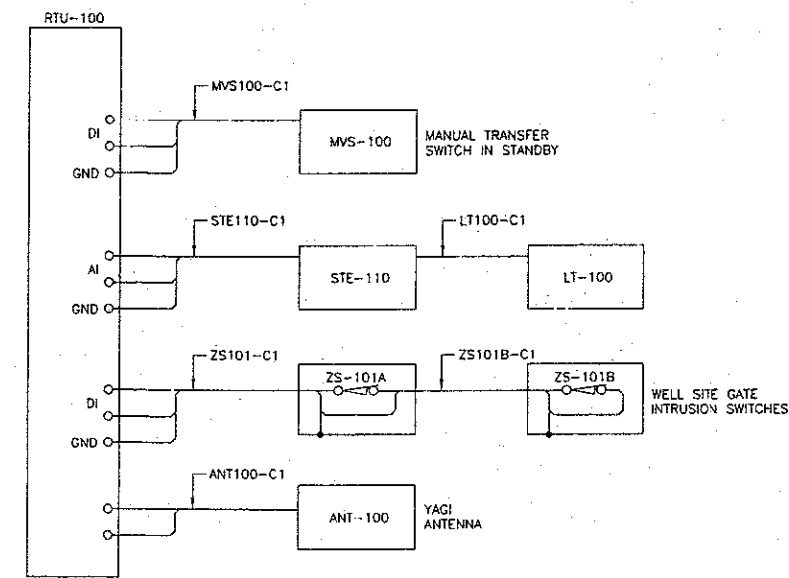
C FLOW TRANSMITTER SCHEMATIC (FQIT-100)

NOTES:

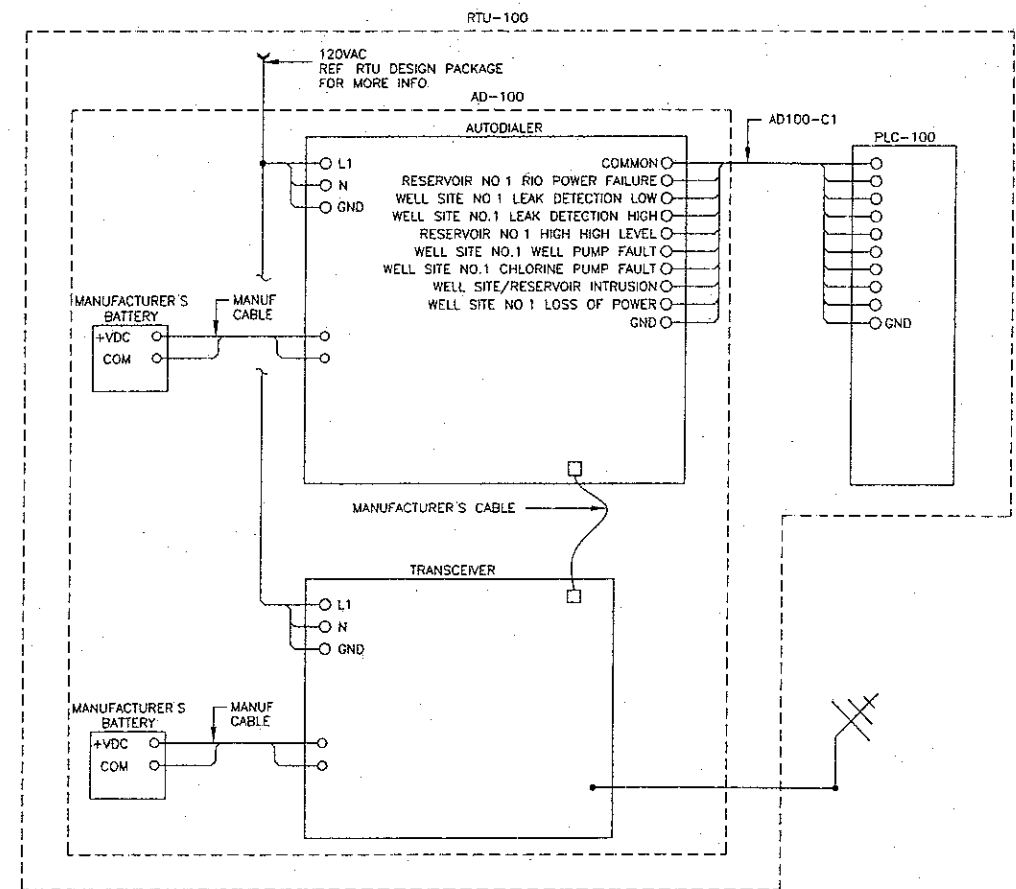
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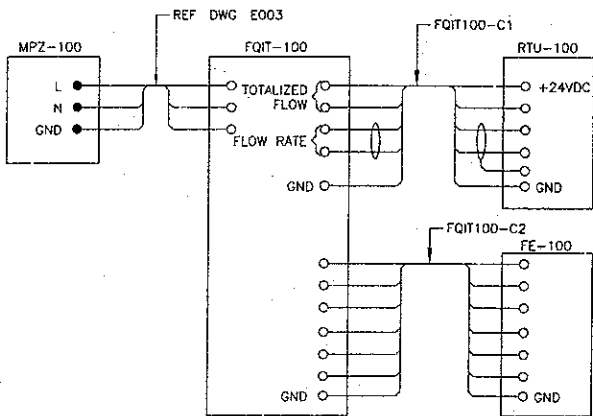
D POWER QUALITY METER CONNECTION DIAGRAM (PQM-105)



E MISCELLANEOUS CONNECTION DIAGRAM



B1 AUTODIALER CONNECTION DIAGRAM



C1 FLOW TRANSMITTER CONNECTION DIAGRAM (FQIT-100)

CIRCUIT SCHEDULE	
CIRCUIT NO.	CONDUCTORS
AD100-C1	9 - #14, #14 GND
FQIT100-C1	2 - #14, 1 - IC, #14 GND
FQIT100-C2	1 - MC, #14 GND
PQM105-C1	1 - IC, #14 GND
ZS101-C1	2 - #14, #14 GND
ZS101B-C1	2 - #14, #14 GND
MVS100-C1	2 - #14, #14 GND
STE110-C1	1 - IC, #14 GND
LT100-C1	1 - MC, #14 GND
ANT100-C1	ANT. CABLE

F CIRCUIT SCHEDULE

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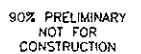
DATE	BY	CHKD	APP'D
3/7/2006	BOB		

SCALE (H) NONE	SCALE (V) NONE	DRAWN BY GAF	CHECKED BY BOB	DATE 3/7/2006
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RHODES HOMES ARIZONA, LLC
GOLDEN VALLEY RANCH WELL #1
SCHEMATIC/CONNECTION DIAGRAM
- SHEET 4
MOHAVE COUNTY ARIZONA

SHEET
E008
14 OF 20 SHEETS
SCI PROJECT#
18449.07.03

[illegible]

SCALE (H) NONE
SCALE (V) NONE
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DATE 3/7/2006

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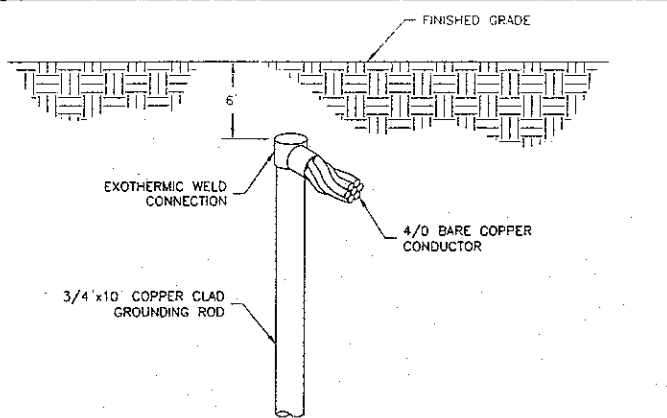
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**GOLDEN VALLEY RANCH WELL #1
CONDUIT BLOCK DIAGRAM**

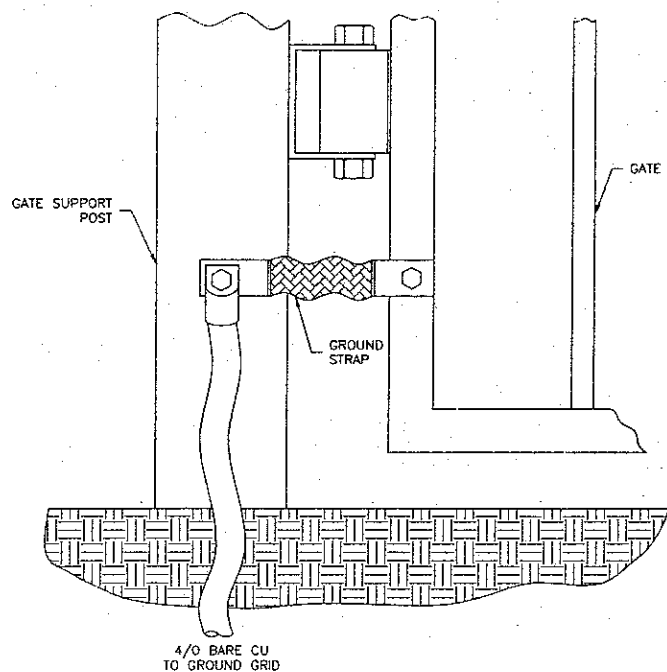
MOHAVE COUNTY ARIZONA

SHEET
E009

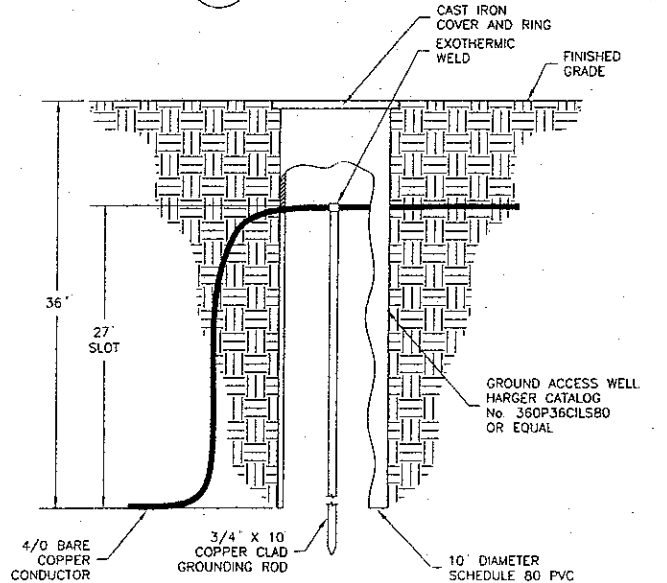
SCI PROJECT#
18449.07.03



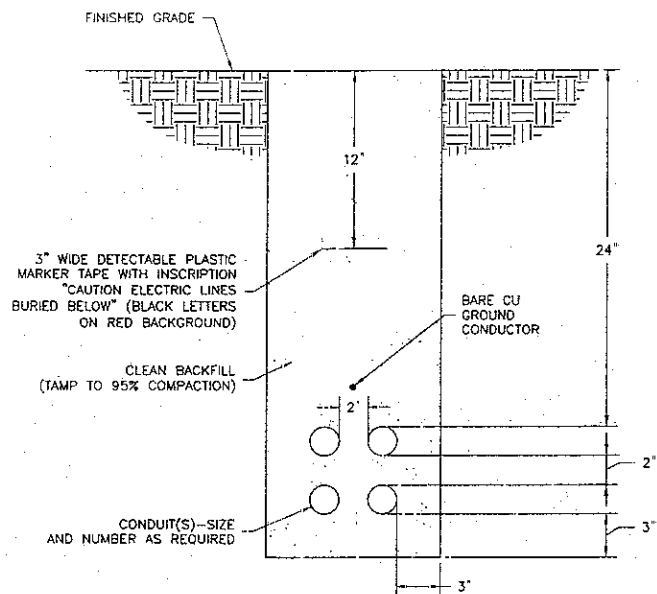
403
TYP
EXOTHERMIC GROUND ROD CONNECTION
NOT TO SCALE



401
TYP
GATE GROUNDING DETAIL
NOT TO SCALE



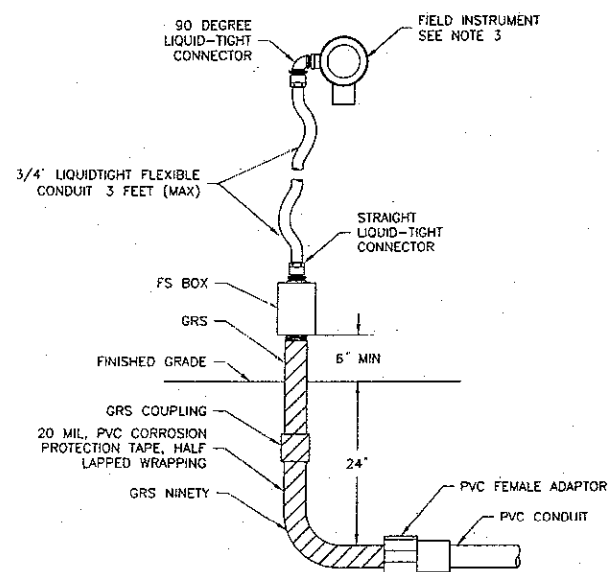
406
TYP
GROUND ROD WITH ACCESS WELL
NOT TO SCALE



101
TYP
DUCTBANK - DIRECT BURIED
NOT TO SCALE

NOTES:

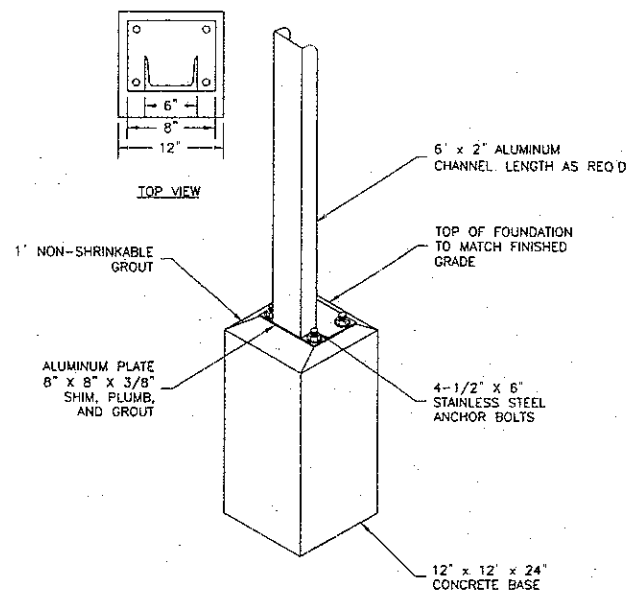
- 1 GROUND CONDUCTOR SHALL RUN CONTINUOUSLY THROUGH MANHOLES AND SHALL CONTINUE FROM DUCTBANK INTO SWITCHGEAR OR BUILDING GROUNDING SYSTEM AND SHALL BE BONDED TO EACH RIGID METAL CONDUIT. SIZE TO BE #4/0 UNLESS OTHERWISE INDICATED ON PLANS
- 2 ALL DIMENSIONS ARE MINIMUM.



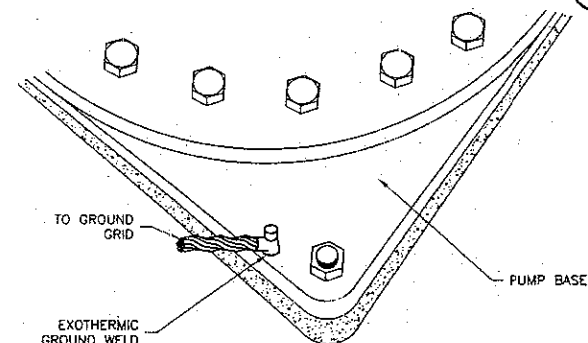
NOTES:

- 1 WHERE CONDUITS ARE INSTALLED IN A CONCRETE SLAB, THE 24\"/>
- 2 IN CORROSIVE AREAS PVC COATED GRS SHALL BE USED
- 3 MOUNT INSTRUMENT AS PER MANUFACTURERS RECOMMENDATIONS
- 4 INSULATE WATER LINES AND TRANSMITTER TO PREVENT FREEZING.

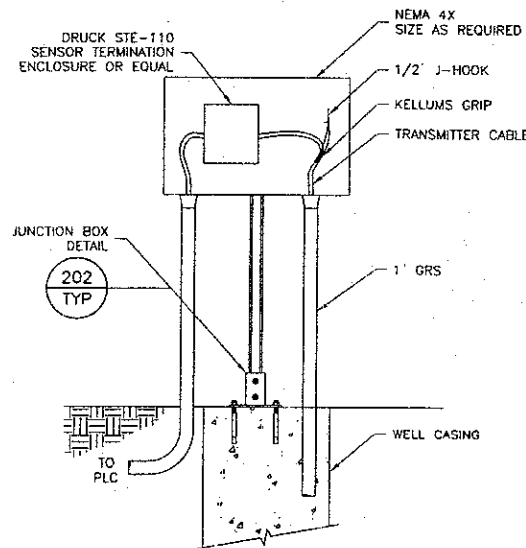
173
TYP
GRS STUB-UP TO LTC DETAIL
NOT TO SCALE



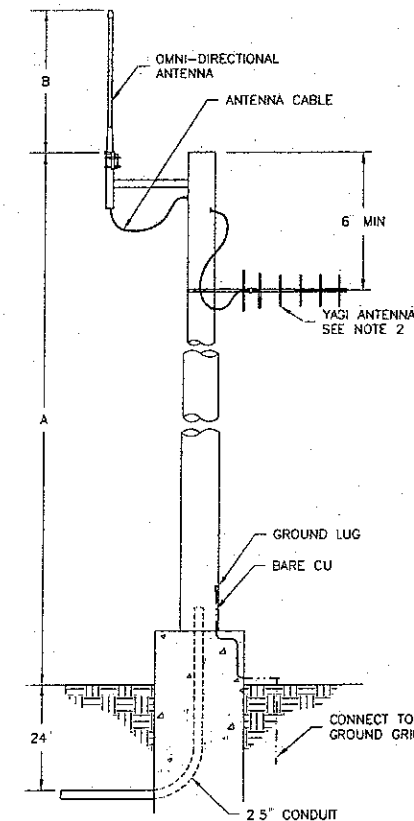
205
TYP
EQUIPMENT MOUNTING
NOT TO SCALE



411
TYP
VERTICAL TURBINE PUMP GROUNDING DETAIL
NOT TO SCALE



711
TYP
SUBMERSIBLE WELL LEVEL
TRANSMITTER MOUNTING DETAIL
NOT TO SCALE

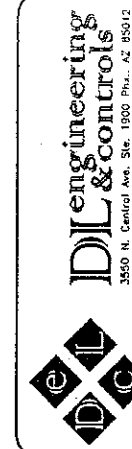


607
TYP
NEW ANTENNA MAST ELEVATION
NOT TO SCALE

NOTE:

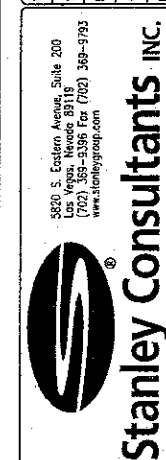
- 1 EXACT DIMENSIONS FOR A AND B SHALL BE COORDINATED WITH OWNER PRIOR TO INSTALLATION
- 2 MOUNTING AND ALIGNING OF THE YAGI-TYPE ANTENNA THE CONTRACTOR SHALL COORDINATE ANTENNA INSTALLATION, ALIGNMENT, AND TUNING REQUIREMENTS WITH THE MANUFACTURER
- 3 MAST SHALL BE APPROVED BY A REGISTERED STRUCTURAL ENGINEER

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DATE	BY	DESCRIPTION
3/7/2006	BOD	CHECKED BY BOD
3/7/2006	GAF	DRAWN BY GAF
NONE	NONE	SCALE (V)
NONE	NONE	SCALE (H)

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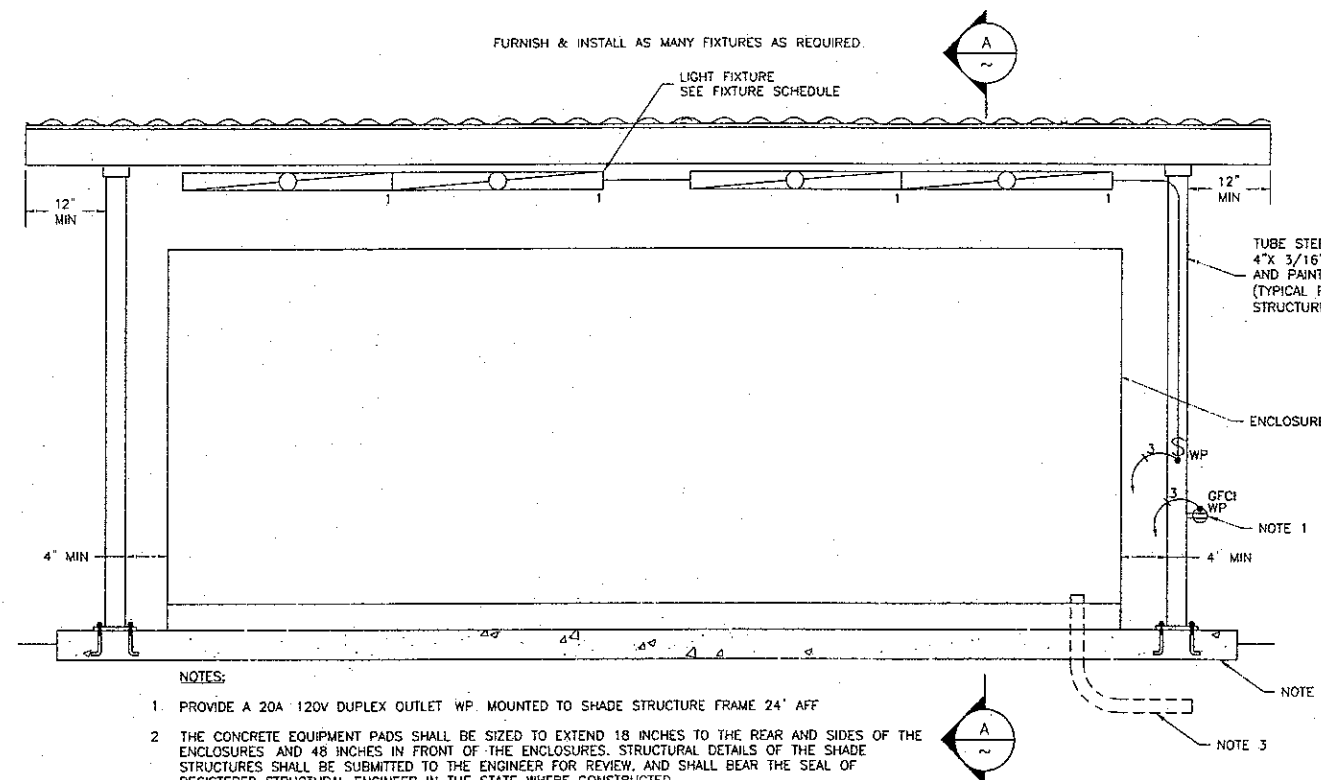


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GOLDEN VALLEY RANCH WELL #1
STANDARD DETAILS - SHEET 1
MOHAVE COUNTY, ARIZONA

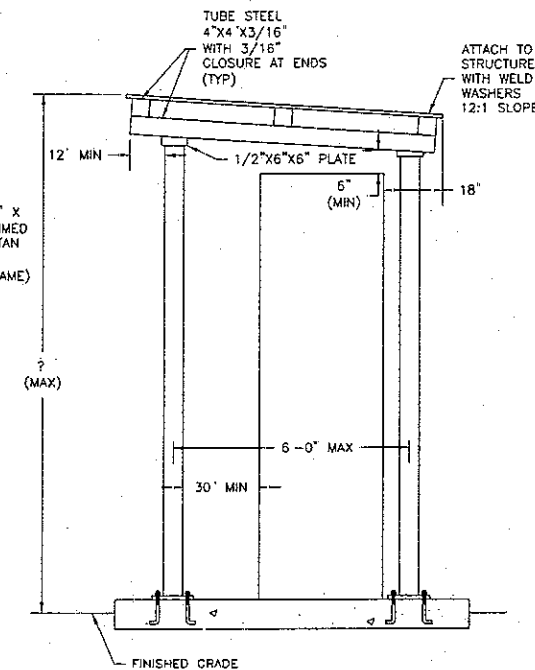
SHEET
E010
16 OF 20 SHEETS
SCF PROJECT#
18449.07.03

202 JUNCTION BOX MOUNTING DETAIL
TYP NOT TO SCALE

170 GRS STUB UP DETAIL
TYP NOT TO SCALE




402 "UFER" GROUNDING DETAIL
TYP NOT TO SCALE



501 AREA LIGHTING POLE MOUNTING SHORT BASE
TYP NOT TO SCALE

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**DIL Engineering
& Controls**
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PHODES HOMES ARIZONA, LLC

GOLDEN VALLEY RANCH WELL #1
STANDARD DETAILS - SHEET 2

MOHAVE COUNTY
ARIZONA

SHEET
E011
17 OF 20 SHEETS

SCI PROJECT#
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GOLDEN VALLEY RANCH WELL #1
SYSTEM COMMUNICATIONS
ARCHITECTURE

ARCHITECTURE

SHEET
E012
18 OF 20 SHEETS

SCI PROJECT#
18449.07.03

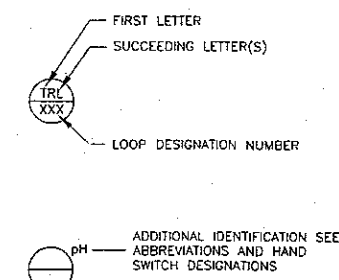
ISA INSTRUMENT IDENTIFICATION TABLE

FIRST LETTERS		SUCCEEDING LETTERS		
MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A ANALYZER		ALARM		AUTO
B BURNER, COMBUSTION			CONTROL	CLOSED
C CONDUCTIVITY				
D DENSITY	DIFFERENTIAL			
E VOLTAGE		ELEMENT		
F FLOW	RATIO			
G GAUGE		GLASS, VIEWING DEVICE		
H HAND				HIGH
I CURRENT		INDICATE		
J POWER	SCAN			
K TIME SCHED.	TIME RATE OF CHANGE		CONTROL STATION	
L LEVEL		LIGHT		LOW
M MOTION				MIDDLE
N INTRUSION				NORMAL
O TORQUE		ORIFICE, RESTRICTION		OPEN
P PRESSURE		POINT CONNECTION		STOP
Q QUANTITY	INTEGRATE, TOTALIZE			
R RADIATION		RECORD, OR PRINT		RUN OR REMOTE
S SPEED, FREQUENCY	SAFETY		SWITCH	START
T TEMPERATURE			TRANSMIT	
U MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V VIBRATION			VALVE, LOUVER	
W WEIGHT		WELL		
X MOTOR	X-AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y EVENT, STATE, OR PRESENCE	Y-AXIS		RELAY, COMPUTE, CONVERT	
Z POSITION	Z-AXIS		DRIVER, ACTUATOR	
			FINAL CONTROL ELEMENT	

P&ID ABBREVIATIONS

A AMPERE	JB JUNCTION BOX	PRES PRESSURE
AFD ADJUSTABLE FREQUENCY DRIVE	L LO	PS PRESSURE SWITCH
AI ANALOG INPUT	LAN LOCAL AREA NETWORK	PSI POUNDS PER SQUARE INCH
AIC AMPS INTERRUPTING CAPACITY	LC LOOP CONTROLLER	PV PROCESS VARIABLE
ARV AIR RELIEF VALVE	LCP LOCAL CONTROL PANEL	RAS RETURN ACTIVATED SLUDGE
AO ANALOG OUTPUT	LOS LOCK-OFF-STOP	RAW RAW WATER
AS AIR SUPPLY	LR LOCAL/REMOTE	REM REMOTE
ATS AUTOMATIC TRANSFER SWITCH	LS LEVEL (i.e. FLOAT) SWITCH	RF RADIO FREQUENCY
AUTO AUTOMATIC	M MOTOR	RIO REMOTE INPUT OUTPUT
CB CIRCUIT BREAKER	MA MANUAL/AUTO	RS RAW SEWAGE
CL2 CHLORINE	MA MILLIAMPS	RSP RAW SEWAGE PUMP
CON CONTACTOR	MC MANUFACTURE CABLE	RST RESET
CU COPPER	MCC MOTOR CONTROL CENTER	RST RESISTANCE TEMPERATURE DETECTOR
CV CONTROL VALVE	MCP MOTOR CIRCUIT PROTECTOR	RTU REMOTE TELEMETRY UNIT
DCS DISTRIBUTED CONTROL SYSTEM	MFR(S) MANUFACTURER(S)	RUN1 RUN (FAST SPEED)
DI DISCRETE INPUT	MGD MILLION GALLONS PER DAY	RUN2 RUN (SLOW SPEED)
DO DISSOLVED OXYGEN, DISCRETE OUTPUT	MGL MILLIGRAMS PER LITER	RVC RESERVOIR CONTROL VALVE CLOSED
DP DIFFERENTIAL PRESSURE	MH MANHOLE	RVO RESERVOIR CONTROL VALVE OPEN
DWG DRAWING	MLR MIXED LIQUOR RETURN	SB SLUDGE BLANKET
ECO EMERGENCY GAS OFF	MO MOISTURE	SES SERVICE ENTRANCE SECTION
ETM ELAPSED TIME METER	MOD MODULATED	SLC SINGLE LOOP CONTROLLER
ETMs ELAPSED TIME METER (FAST SPEED)	MTU MASTER TELEMETRY UNIT	SLOS START-LOCK-OFF-STOP
ETMs ELAPSED TIME METER (SLOW SPEED)	NPW NON-POTABLE WATER	SO2 SULFUR DIOXIDE
EOL ELECTRONIC OVERLOAD	NT NITROGEN SUPPLY	SOV SOLENOID OPERATED VALVE
EXIST EXISTING	NT TURBIDITY	SP SET POINT
FA FOUL AIR	O/C OPEN / CLOSE	SPD SPEED
FC FAIL CLOSED	OCA OPEN-CLOSE-AUTO	SPR SPARE
FE FINAL EFFLUENT	OCR OPEN-CLOSE-REMOTE	SS START/STOP (MAINTAINED)
FR FORWARD-REVERSE	OIT OPERATOR INTERFACE TERMINAL	SSS SOLID STATE STARTER (SOFT START)
FS FLOAT SWITCH	OL OVERLOAD	STR MOTOR STARTER
FVNR FULL VOLTAGE NON-REVERSING	OO ON/OFF (MAINTAINED)	TAH TEMPERATURE ALARM HIGH
FW FINISHED WATER	OAA ON-OFF-AUTO	TAH TEMPERATURE AND/OR MOISTURE
GND GROUND	OCR ON-OFF-REMOTE	TEMP TEMPERATURE
GAL GALLONS	OSC OPEN-STOP-CLOSE	TS TEMPERATURE SWITCH
OPD GALLONS PER DAY	PAM PRESSURE ALARM HIGH	TSS TOTAL SUSPENDED SOLIDS
GPH GALLONS PER HOUR	PER PERMISSIVE	UG UNDERGROUND
GPM GALLONS PER MINUTE	PLC PROGRAMMABLE LOGIC CONTROLLER	UP/STOP/DOWN
H, HI HIGH	PHL PANEL	V VOLT
H2S HYDROGEN SULFIDE	PO PULSE OUTPUT	VFD VARIABLE FREQUENCY DRIVE
HMI HUMAN MACHINE INTERFACE	POS POSITION	VIS VALVE INCOMPLETE SEQUENCE
HOA HAND-OFF-AUTO	POT POTENTIOMETER	W WATER
I CURRENT	PPG POUNDS PER GALLON	WAS WASTE ACTIVATED SLUDGE
IO INPUT/OUTPUT	PPH POUNDS PER HOUR	WW WASTEWATER
IOE INTERNAL-OFF-EXTERNAL	PPM PARTS PER MILLION	WVC WASTE VALVE CLOSED
	PR PAIR	WVO WASTE VALVE OPEN
		XMITR TRANSMITTER
		ZS POSITION (i.e. LIMIT) SWITCH

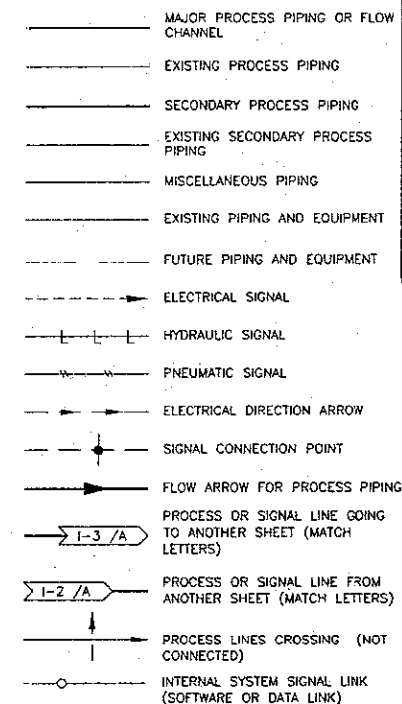
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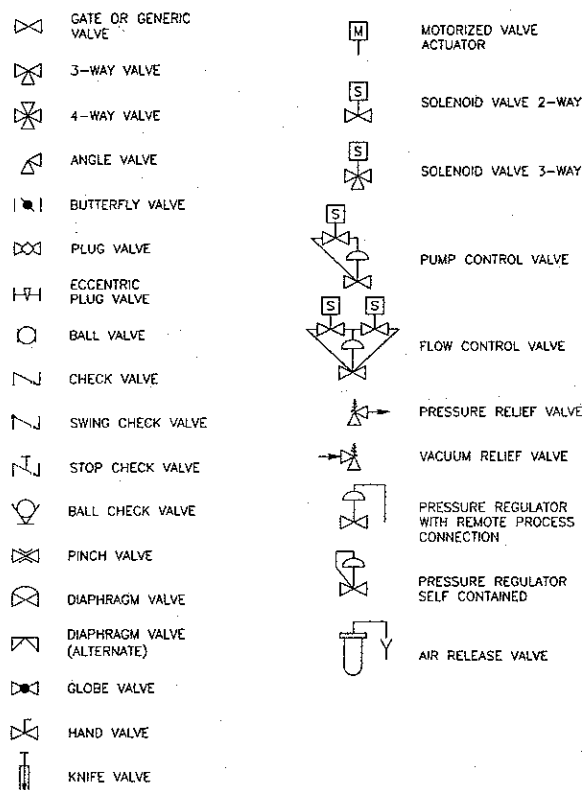
HAND SWITCH DESIGNATIONS

ES	EMERGENCY STOP
HOA	HAND-OFF-AUTO
HOR	HAND-OFF-REMOTE
HORA	HAND-OFF-REMOTE-AUTO
JOA	JOG-OFF-AUTO
LOR	LOCAL-OFF-REMOTE
LR	LOCAL-REMOTE
OC	OPEN-CLOSE
OO	ON-OFF
S/S	START STOP PUSH BUTTONS

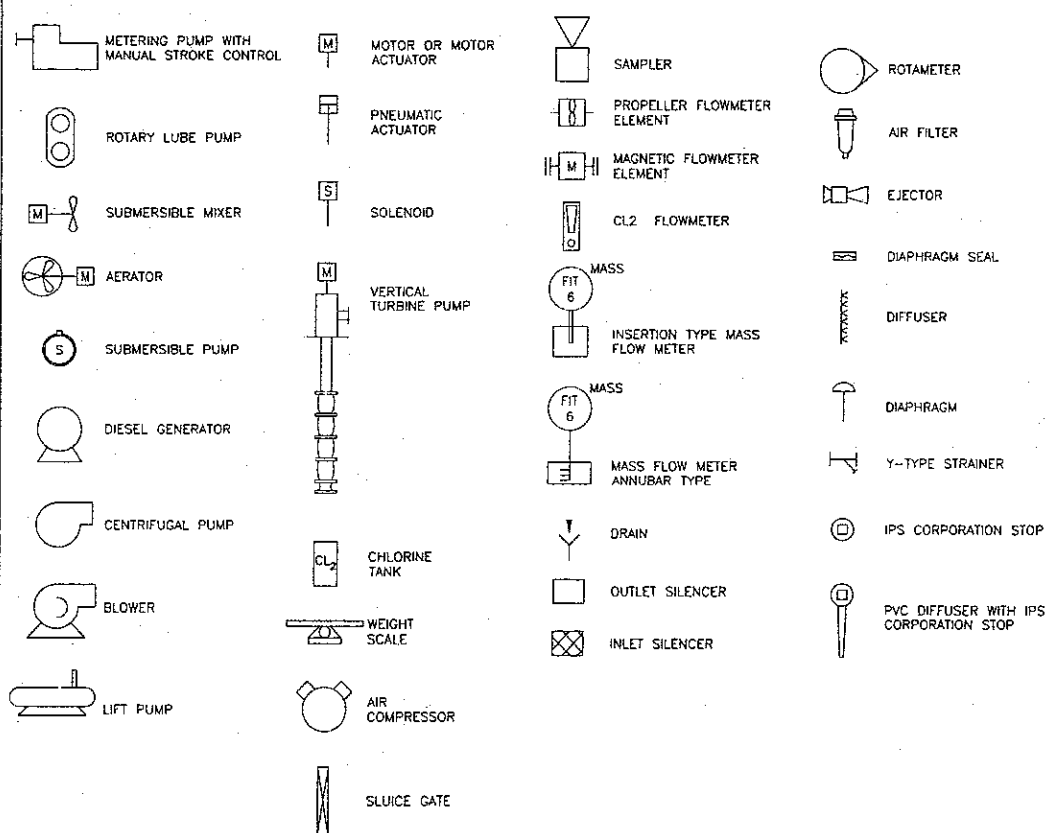
LINE SYMBOLS



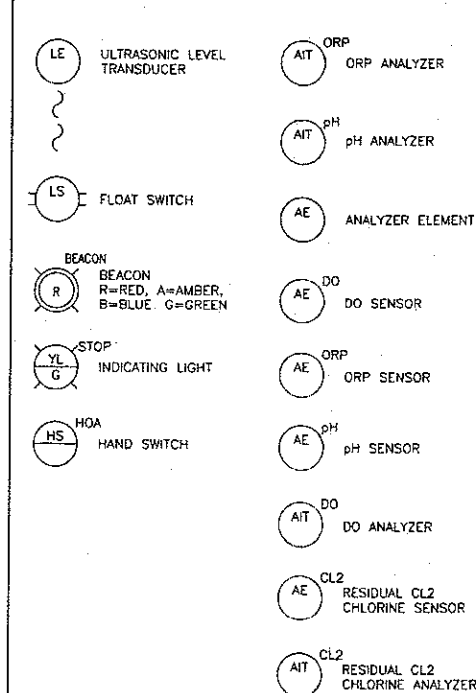
P&ID VALVE SYMBOLS



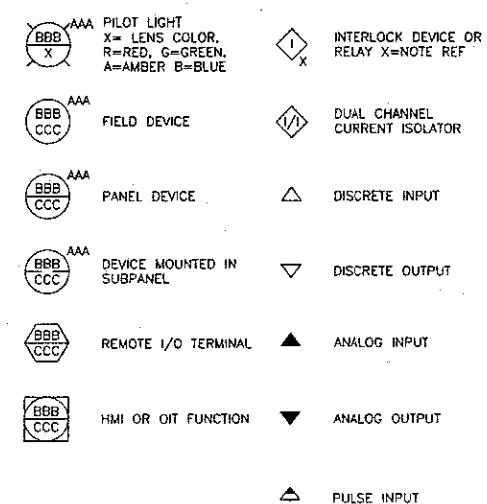
P&ID EQUIPMENT AND PROCESS SYMBOLS



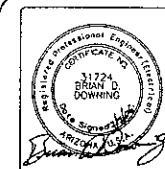
SENSING, INDICATION AND CONTROL SYMBOLS



P&ID INTERFACE SYMBOLS



NOTE:
REFER TO ISA INSTRUMENT IDENTIFICATION TABLE FOR DEFINITION OF LETTERS BBB INSIDE THE BUBBLES. CCC REPRESENTS LOOP ID (IF USED) SEE ABBREVIATIONS LIST FOR SUPERScript AAA.



SCALE (H) NONE	SCALE (V) NONE	DRAWN BY GAF	CHECKED BY BDD	DATE 3/7/2006
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GOLDEN VALLEY RANCH WELL #1
P AND ID SYMBOLS AND LEGEND

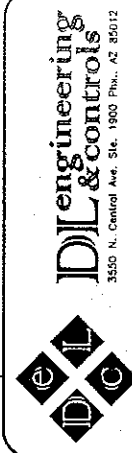
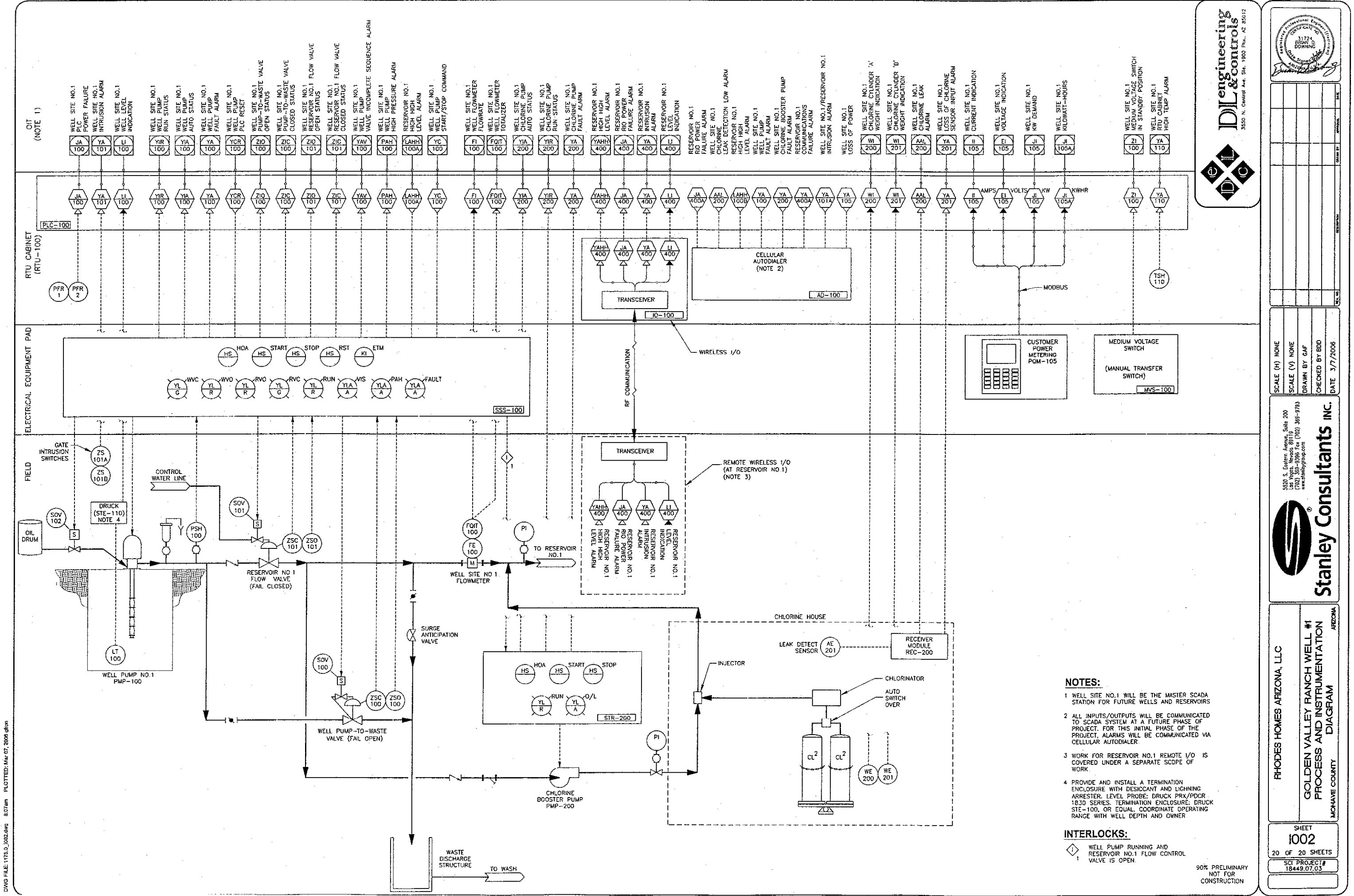
ARIZONA
MOHAVE COUNTY

SHEET
1001

19 OF 20 SHEETS

SC PROJECT #
18449.07.03

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CONSTRUCTION



DATE	3/7/2006
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SCALE (V)	NONE
SCALE (H)	NONE



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RHODES HOMES ARIZONA, LLC
GOLDEN VALLEY RANCH WELL #1
PROCESS AND INSTRUMENTATION
DIAGRAM
MOHAVE COUNTY ARIZONA

SHEET
1002
20 OF 20 SHEETS
SCI PROJECT#
18449.07.03


MOHAVE COUNTY, AZ.
GOLDEN VALLEY RANCH
WELL NO. 1
RTU DESIGN
RTU-100

DWG FILE: 1175.00.101_EC01.dwg 8.34am PLOTTED: Mar 07, 2006 gfran



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GOLDEN VALLEY RANCH WELL #1
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MOHAVE COUNTY, AZ

COVER
SHEET

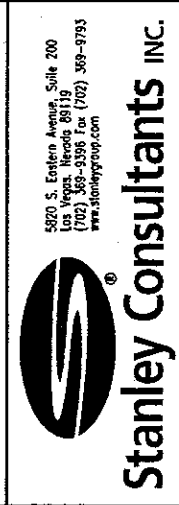
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DESIGNED BY: GAF	SUBMITAL DATE: MARCH 2006
CHECKED BY: EH	DRAWING NUMBER EC01 SHEET 1 OF 15

MOHAVE COUNTY, AZ.
GOLDEN VALLEY RANCH WELL NO.1
RTU DESIGN
SHEET INDEX

SHEET	DRAWING TITLE
EC01	COVER SHEET
EC02	SHEET INDEX
EC03	ELECTRICAL SYMBOLS & ABBREVIATIONS
EC04	ISA TABLE AND COMMON LEGENDS SHEET
EC05	BILL OF MATERIALS
EC06	RTU ENCLOSURE LAYOUT
EC07	RTU PANEL LAYOUT
EC08	TERMINAL BLOCK & DEVICE DETAILS
EC09	COMMUNICATION SYSTEMS ARCHITECTURE
EC10	POWER DISTRIBUTION SCHEMATIC
EC11	SLOT 1 ANALOG INPUT SCHEMATIC
EC12	SLOT 2 ANALOG INPUT SCHEMATIC
EC13	SLOT 3 DISCRETE INPUT SCHEMATIC
EC14	SLOT 4 DISCRETE INPUT SCHEMATIC
EC15	SLOT 5 DISCRETE OUTPUT SCHEMATIC



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



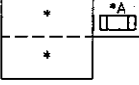
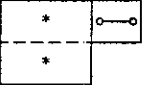
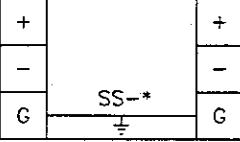
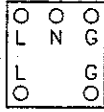



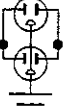

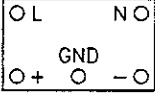
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REV.	BY	DATE	DESCRIPTION


GOLDEN VALLEY RANCH WELL #1
RHODES HOMES ARIZONA, LLC
MOHAVE COUNTY, AZ

SHEET
INDEX


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DESIGNED BY: GAF	SUBMITAL DATE: MARCH 2006
CHECKED BY: EH	DRAWING NUMBER EC02 SHEET 2 OF 15

MOHAVE COUNTY, AZ.
GOLDEN VALLEY RANCH WELL NO.1
RTU DESIGN
ELECTRICAL SYMBOLS AND ABBREVIATIONS


SCHEMATIC/WIRING DIAGRAM SYMBOLS	SCHEMATIC/WIRING DIAGRAM SYMBOLS	ABBREVIATIONS																																																									
<div><p>CIRCUIT BREAKER *A - AMP RATING</p></div> <div><p>FUSE WITH PULLER *A - AMP RATING</p></div> <div><p>SWITCH NORMALLY OPEN</p></div> <div><p>TERMINAL BLOCK * - TB IDENTIFICATION</p></div> <div><p>TERMINAL BLOCK W/ FUSE PLUG AND FUSE * - TB IDENTIFICATION *A - AMPS</p></div> <div><p>TERMINAL BLOCK W/ DISCONNECT KNIFE * - TB IDENTIFICATION</p></div> <div><p>SURGE SUPPRESSOR FOR FLOATING SIGNAL CIRCUITS * - SS NUMBER IDENTIFICATION</p></div> <div><p>SURGE SUPPRESSOR FOR POWER SUPPLY * - SS NUMBER IDENTIFICATION</p></div> <div><p>CONTROL RELAY * - CR NUMBER IDENTIFICATION # - TERMINAL NUMBER</p></div>	<div><p>EARTH GROUND</p></div> <div><p>TERMINAL BLOCK</p></div> <div><p>DUPLEX RECEPTACLE</p></div> <div><p>SINGLE RECEPTACLE</p></div> <div><p>DC POWER SUPPLY * - DC VOLTAGE RATING</p></div>	<div><p>A/R AS REQUIRED AC COM NEUTRAL AFF ABOVE FINISHED FLOOR AI ANALOG INPUT ANL COM ANALOG COMMON AO ANALOG OUTPUT AWG AMERICAN WIRE GAUGE BLK BLACK BLU BLUE CAP CENTRAL ARIZONA PROJECT CLR CLEAR CR CONTROL RELAY DC COM DC COMMON DC+ DC POSITIVE POTENTIAL DI DISCRETE INPUT DO DISCRETE OUTPUT DS DOOR SWITCH FOM FIBER OPTIC MODEM FOT FIBER OPTIC TRANSCEIVER GND GROUND GRN GREEN I/O INPUT/OUTPUT L LINE N NEUTRAL NC NORMALLY CLOSED NO NORMALLY OPEN NP NAMEPLATE OIT OPERATOR INTERFACE TERMINAL ORN ORANGE PDB POWER DISTRIBUTION BLOCK PLC PROGRAMMABLE LOGIC CONTROLLER PP FIBER OPTIC PATCH PANEL PS POWER SUPPLY REC RECEPTACLE RES RESERVOIR RIO REMOTE INPUT/OUTPUT RTU REMOTE TELEMETRY UNIT SLC SMALL LOGIC CONTROLLER SP SPACE SS SURGE SUPPRESSOR TB TERMINAL BLOCK UPS UNINTERRUPTIBLE POWER SUPPLY WHT WHITE WTR WATER TREATMENT PLANT WWTP WASTE WATER TREATMENT PLANT</p></div> <div><p>LINETYPE LEGEND</p><p>----- FIELD WIRING ----- INTERNAL PANEL WIRING ----- RADIO COMMUNICATION LINK ----- FO ----- FIBER OPTIC CABLE ----- FOP ----- FIBER OPTIC PATCH CABLE ----- EN ----- ETHERNET CAT5 CABLE ----- DH+ ----- DATA HIGHWAY PLUS ----- RIO ----- REMOTE INPUT OUTPUT ----- AREA DIVIDER ----- EQUIPMENT ----- PATCH PANEL</p></div>																																																									
<p>COLOR CODE CHART FOR 18 AWG BELDEN CABLES 12 COND. NO. 8466 AND 19 COND. NO. 8619</p>																																																											
<table><tr><td>BLACK</td><td>BLK</td><td>1st</td></tr><tr><td>WHITE</td><td>WHT</td><td>2nd</td></tr><tr><td>RED</td><td>RED</td><td>3rd</td></tr><tr><td>GREEN</td><td>GRN</td><td>4th</td></tr><tr><td>ORANGE</td><td>ORN</td><td>5th</td></tr><tr><td>BLUE</td><td>BLU</td><td>6th</td></tr><tr><td>WHITE/BLACK</td><td>WHT/BLK</td><td>7th</td></tr><tr><td>RED/BLACK</td><td>RED/BLK</td><td>8th</td></tr><tr><td>GREEN/BLACK</td><td>GRN/BLK</td><td>9th</td></tr><tr><td>ORANGE/BLACK</td><td>ORN/BLK</td><td>10th</td></tr><tr><td>BLUE/BLACK</td><td>BLU/BLK</td><td>11th</td></tr><tr><td>BLACK/WHITE</td><td>BLK/WHT</td><td>12th</td></tr><tr><td>RED/WHITE</td><td>RED/WHT</td><td>13th</td></tr><tr><td>GREEN/WHITE</td><td>GRN/WHT</td><td>14th</td></tr><tr><td>BLUE/WHITE</td><td>BLU/WHT</td><td>15th</td></tr><tr><td>BLACK/RED</td><td>BLK/RED</td><td>16th</td></tr><tr><td>WHITE/RED</td><td>WHT/RED</td><td>17th</td></tr><tr><td>ORANGE/RED</td><td>ORN/RED</td><td>18th</td></tr><tr><td>BLUE/RED</td><td>BLU/RED</td><td>19th</td></tr></table>		BLACK	BLK	1st	WHITE	WHT	2nd	RED	RED	3rd	GREEN	GRN	4th	ORANGE	ORN	5th	BLUE	BLU	6th	WHITE/BLACK	WHT/BLK	7th	RED/BLACK	RED/BLK	8th	GREEN/BLACK	GRN/BLK	9th	ORANGE/BLACK	ORN/BLK	10th	BLUE/BLACK	BLU/BLK	11th	BLACK/WHITE	BLK/WHT	12th	RED/WHITE	RED/WHT	13th	GREEN/WHITE	GRN/WHT	14th	BLUE/WHITE	BLU/WHT	15th	BLACK/RED	BLK/RED	16th	WHITE/RED	WHT/RED	17th	ORANGE/RED	ORN/RED	18th	BLUE/RED	BLU/RED	19th	
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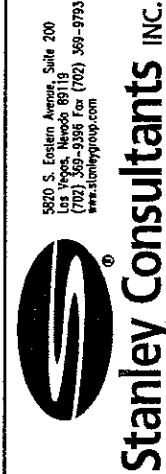
**ELECTRICAL
SYMBOLS &
ABBREVIATIONS**

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MOHAVE COUNTY, AZ.
GOLDEN VALLEY RANCH WELL NO.1
RTU DESIGN
ISA TABLE AND COMMON LEGENDS SHEET

ISA INSTRUMENT IDENTIFICATION TABLE

FIRST LETTERS			SUCCEEDING LETTERS		
MEASURED OR INITIATING VARIABLE		MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYZER		ALARM		AUTO
B	BURNER, COMBUSTION				
C	CONDUCTIVITY			CONTROL	CLOSED
D	DENSITY	DIFFERENTIAL			
E	VOLTAGE		ELEMENT		
F	FLOW	RATIO			
G	GAUGE		GLASS, VIEWING DEVICE		
H	HAND				HIGH
I	CURRENT		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHED.	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	MOTION				MIDDLE
N	INTRUSION				NORMAL
O	TORQUE		ORIFICE, RESTRICTION		OPEN
P	PRESSURE		POINT CONNECTION		STOP
Q	QUANTITY	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD, OR PRINT		REMOTE
S	SPEED, FREQUENCY	SAFETY		SWITCH	START
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION			VALVE, LOUVER	
W	WEIGHT		WELL		
X	MOTOR	X-AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE, OR PRESENCE	Y-AXIS		RELAY, COMPUTE, CONVERT	
Z	POSITION	Z-AXIS		DRIVER, ACTUATOR, FINAL CONTROL ELEMENT	



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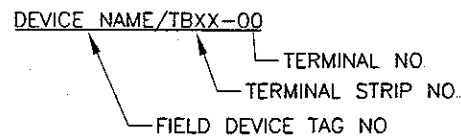
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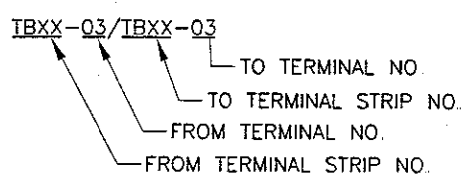
ISA TABLE &
COMMON LEGENDS
SHEET

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DESIGNED BY: GAF	SUBMITTAL DATE: MARCH 2006
CHECKED BY: EH	DRAWING NUMBER EC04 SHEET 4 OF 15

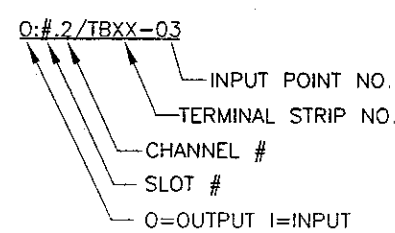
FIELD WIRES
TAG LEGEND



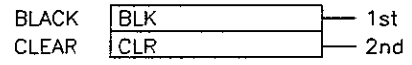
PANEL POWER WIRES
TAG LEGEND



PANEL I/O WIRES
TAG LEGEND



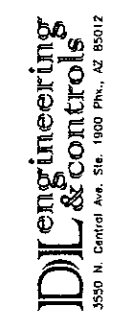
COLOR CODE CHART FOR 22 AWG
BELDEN PAIRED CABLE NO. 8761




PANEL WIRING
IDENTIFICATION

- BLACK - 120VAC LINE
- WHITE - 120VAC NEUTRAL
- GREEN - GROUND
- ORANGE - DC POSITIVE
- BLUE - DC COMMON

ITEM #	QTY	MANUFACTURER	CAT. NO.	DESCRIPTION
101	1	MODICON	E984-245	386 BASED COMPACT CONTROLLER W/ 512K MEMORY, 1-MODBUS PORTS, 1- MODBUS+ PORT
102	1	MODICON	AS-P120-125	POWER SUPPLY, COMPACT, 120 VAC INPUT VOLTAGE, 24VDC OUTPUT VOLTAGE, 1.5A@24VDC
103	1	MODICON	DTA-200	PROCESSOR AND 3-I/O SLOT BASE CHASSIS
104	1	MODICON	DTA-201	5-I/O SLOT BASE CHASSIS
110	2	MODICON	AS-BDEP-216	I/O MODULE, COMPACT, DC DIGITAL INPUT, 24VDC, 16-CH ISOLATED
112	1	MODICON	AS-BDAP216N	I/O MODULE, COMPACT, DC DIGITAL OUTPUT, 24VDC, 16-CH
115	2	MODICON	AS-BADU-206	I/O MODULE, COMPACT, DC ANALOG INPUT , 24VDC, 4-CH, 12 BIT
119	1	NIOBRARA	CNOE-800	TSX COMPACT ETHERNET & SERIAL OPTION MODULE
172	1	MODICON	XBT-G5330	MAGELIS 10" HMI GRAPHIC COLOR TERMINAL W/ TOUCHSCREEN, ETHERNET/ IP COM. & RS-232 PORT
201	AR	ALLEN-BRADLEY	1492-DR6	TERMINAL MOUNTING RAIL, HI-RISE, ALUMINUM
202	20	ALLEN-BRADLEY	1492-EA35	END ANCHOR
210	8	ALLEN-BRADLEY	1492-GM35	TERMINAL BLOCK, GROUP MARKING CARRIER
211	10	PHOENIX CONTACT	3004142	FUSE BLOCK, UK5-HESI, SINGLE CIRCUIT, 250V, BFI LED
215	16	ALLEN-BRADLEY	1492-W4	TERMINAL BLOCK, SINGLE CIRCUIT, 600V, GRAY
219	69	ALLEN-BRADLEY	1492-WD4P	TERMINAL BLOCK, DOUBLE LEVEL W/ PLUGGABLE TOP LEVEL
221	3	ALLEN-BRADLEY	1492-WG4	TERMINAL BLOCK, SINGLE CIRCUIT, GROUNDING
222	13	ALLEN-BRADLEY	1492-FP4	FUSE PLUG FOR 1492-W4P PLUGGABLE TERMINAL BLOCKS
223	13	ALLEN-BRADLEY	1492-FP424	FUSE PLUG INSERT W/ BFI, 10-57VAC/DC WORKING VOLTAGE, 10A MAX @ 250V. PROVIDE FAST BLOW FUSES PER WIRING DIAGRAMS.
225	56	ALLEN-BRADLEY	1492-DP4	DISCONNECT PLUG FOR 1492-WD4P AND 1492-W4P
232	6	ALLEN-BRADLEY	1492-CB1G5	CIRCUIT BREAKER, 5A
234	1	ALLEN-BRADLEY	1492-CB1G15	CIRCUIT BREAKER, 15A
235	1	ALLEN-BRADLEY	1492-CB1G20	CIRCUIT BREAKER, 20A
300	1	HOFFMAN	A48H36FLP	ENCLOSURE, NEMA 3R, SINGLE DOOR, (48"H X 36"W X 16"D), WHITE INTERIOR AND EXTERIOR
301	1	HOFFMAN	AFK2416	ENCLOSURE STAND, FLOOR MOUNT 24" HEIGHT
302	1	HOFFMAN	A-NADFK	SWING PANEL KIT
303	1	HOFFMAN	A-48P36	SUBPANEL, WHITE, (48"H x 36"W)
304	1	HOFFMAN	ALF16D18R	18" CABINET FLOURESCENT STRIP LIGHT W/ DOOR SWITCH
305	1	HOFFMAN	A-36P30	SWING OUT SUBPANEL (27" X 33")
377	1	ANY	ANY	GROUNDING BAR
380	AR	PANDUIT	F2X4LG6 C2LG6	2 X 4 PLASTIC WIRING DUCT TYPE "E" W/COVER STYLE "C"
382	1	PROAIR	CR23-0216-G002	PANEL MOUNTED AIR CONDITIONER, NEMA 3R, 115 VAC, 1400/1600 BTU, 4.5A, COLOR MATCH TO CABINET
398	2	ANY	ANY	SIMPLEX RECEPTACLE, WHITE, 125V/15A, W/BOX AND BRUSHED ALUMINUM COVER
399	1	ANY	ANY	DUPLEX RECEPTACLE, WHITE, 125A/15A, W/BOX AND BRUSHED ALUMINUM COVER
405	1	IDEC	PS5R-SF24	POWER SUPPLY, 24VDC, 120W
408	1	IDEC	RH2B-UL-AC120V	RELAY, 120VAC COIL, DPDT
410	1	IDEC	RH2B-UL-DC24V	RELAY, 24VDC COIL, DPDT W/ INDICATOR LIGHT
421	2	IDEC	SH2B-05C	RELAY SOCKET, DIN RAIL MOUNT, FINGERSAFE
422	16	PHOENIX CONTACT	ST-REL 2-KG 24/1	RELAY, 24VDC COIL, SPST MINI RELAYS
423	16	PHOENIX CONTACT	URELG 2	RELAY SOCKET, DIN RAIL MOUNT, FINGERSAFE FOR MINI RELAYS
450	1	MTL SURGE	MA15/D1/SI	120/240 VAC, 15A, SURGE SUPPRESSOR AND FILTER
451	8	PHOENIX CONTACT	TT-2-PE-24VDC	SURGE SUPPRESSOR, 24VDC, 2 WIRE LOOP PROTECTION
703	1	POWERWARE	PW5115750	UPS, 120 VAC, 750 VA
802	AR	ANY	ANY	COMMUNICATION CABLE (CAT 5 ETHERNET)
853	2	TIMES MICROWAVE	EZ-900-NMC	N-MALE CONNECTOR
854	1	TIMES MICROWAVE	GK-S900T	ANTENNA LEAD GROUNDING KIT FOR LMR-900
855	1	PHOENIX CONTACT	LMR-400	ANTENNA CABLE, 50 OHM COAXIAL, WATERTIGHT (REQUIRES ADAPTER TO CONNECT TO MODULE)
900	1	POLYPHASER	IS-50NX-C2	BROADBAND COAXIAL SURGE PROTECTOR, BULKHEAD MOUNT
951	1	PHOENIX CONTACT	2867351	ANTENNA, 7 ELEMENT YAGI, 9db GAIN, W/ TYPE N(F) CONNECTOR (REQUIRES CABLE ADAPTER)
952	1	RACO	CELLULARM	VERBATIM, W/ CELLUAR AUTODIALER, VOICE OVER NETWORK ALARM SYSTEM, 32 CHANNEL, NEMA 4X ENCLOSURE INCLUDED.
953	1	HOFFMAN	ATEMNO	RTU ENCLOSURE TEMPERATURE SWITCH
954	1	PHOENIX CONTACT	RAD-ISM-900-SET-BD	TWO WAY TRANSCEIVER SET, 1: 4-20mA AI, 1: 4-20mA AO, 2: DI, 3: DO
955	1	PHOENIX CONTACT	RAD-OUT-8D-REL	8 OUTPUT CHANNEL EXPANSION MODULE



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RHODES HOMES ARIZONA, LLC
MOHAVE COUNTY, AZ

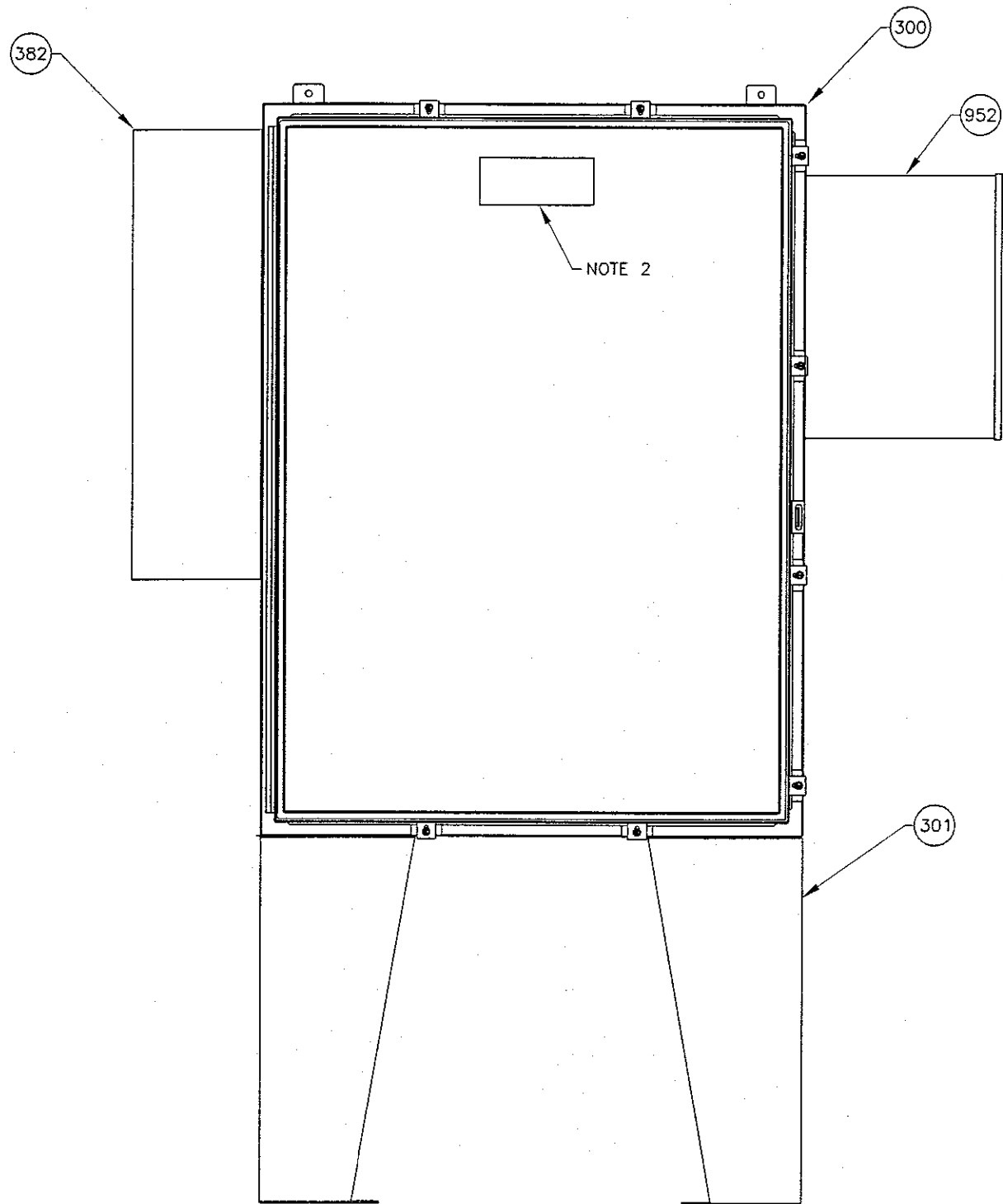
BILL
OF
MATERIALS

DRAWN BY: GAF	PROJECT NO. 1175.00.101
DESIGNED BY: GAF	SUBMITTAL DATE: MARCH 2006
CHECKED BY: EH	DRAWING NUMBER EC05 SHEET 5 OF 15

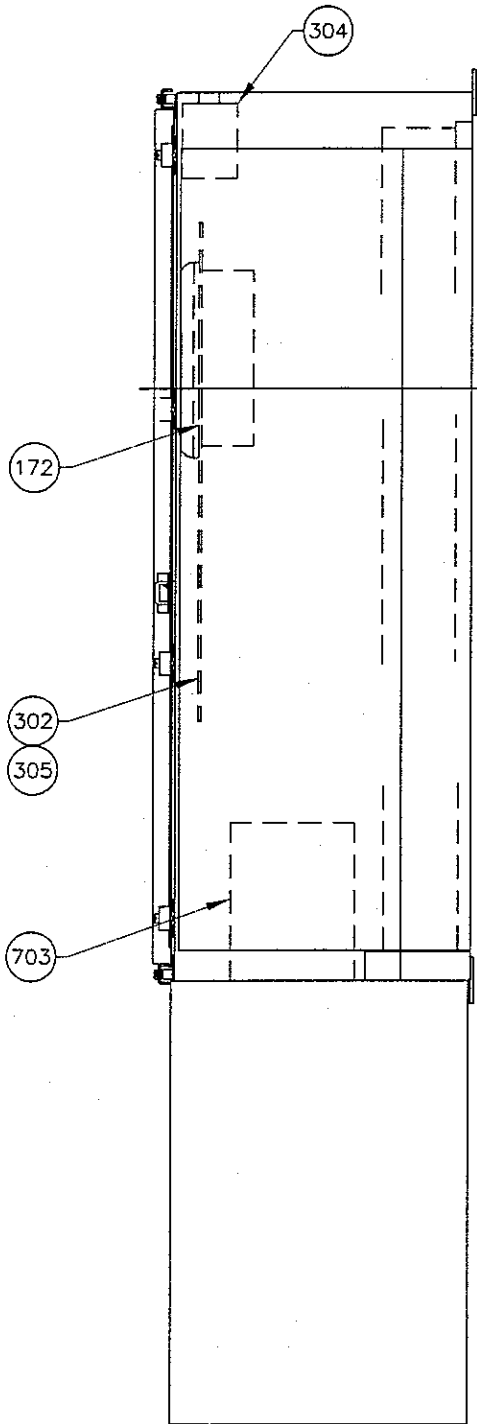
DWG FILE: 1175.00.101_EC05.dwg 8:35am PLOTTED: Mar 07, 2006 g/ron

NOTES:

- 1. BILL OF MATERIALS IS ON DRAWING EC05
- 2. COORDINATE NAMEPLATES WITH THE OWNER



A RTU ENCLOSURE - FRONT



B RTU ENCLOSURE - SIDE

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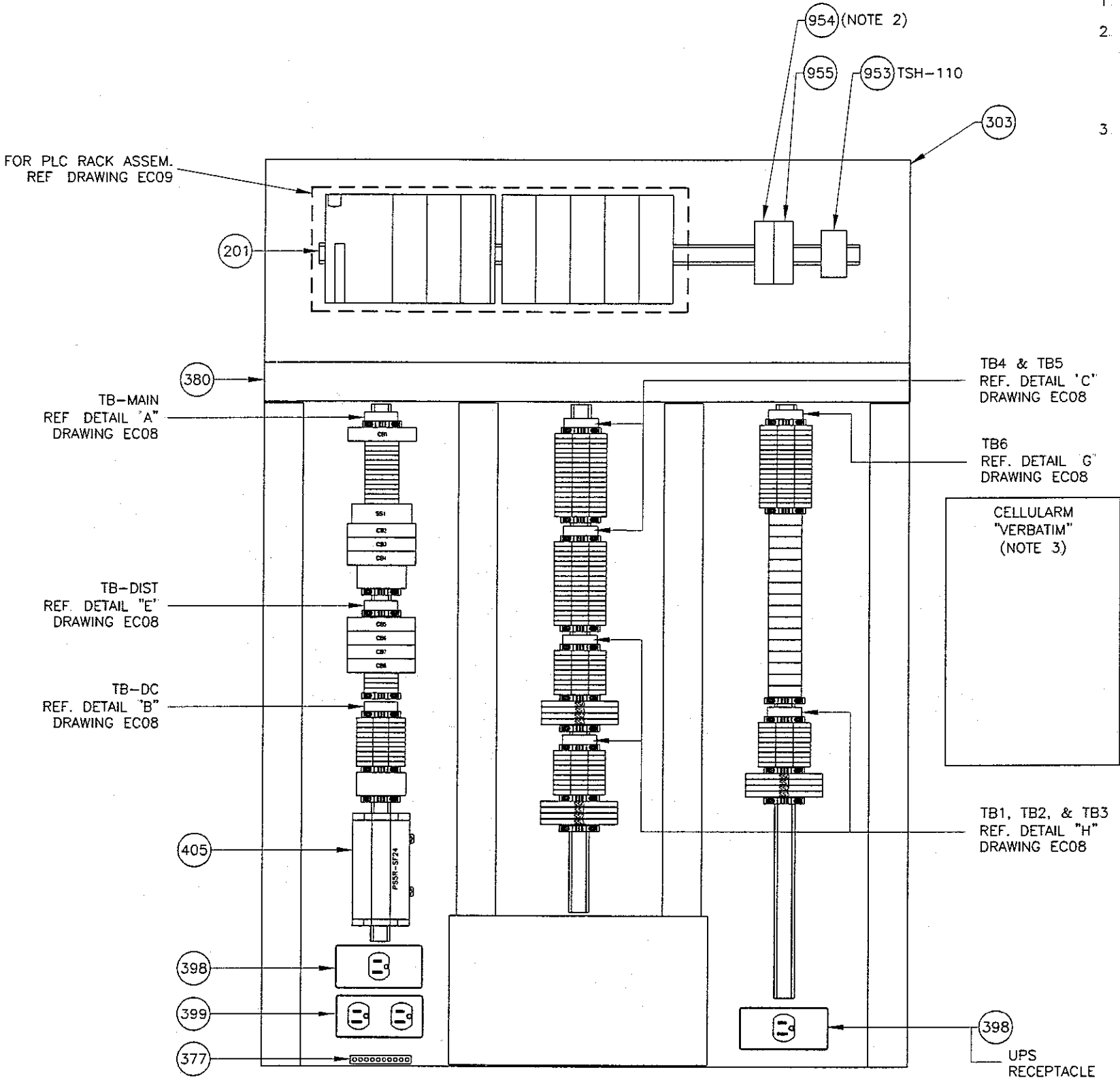
NOTES
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REVISIONS			
REV.	BY	DATE	DESCRIPTION

GOLDEN VALLEY RANCH WELL #1
RHODES HOMES ARIZONA, LLC
MOHAVE COUNTY, AZ

RTU
ENCLOSURE
LAYOUT

DRAWN BY: GAF	PROJECT NO. 1175.00.101
DESIGNED BY: GAF	SUBMITTAL DATE: MARCH 2006
CHECKED BY: EH	DRAWING NUMBER EC06 SHEET 6 OF 15



NOTES:

1. BILL OF MATERIALS IS ON DRAWING EC05
2. THE TRANSCEIVER MODULES COME AS A SET PROVIDE SISTER MODULE TO THE RESERVOIR #1 SITE RIO-400 FOR SYSTEM COMMUNICATIONS. COORDINATE THE RADIO LINK AS REQUIRED, WITH THE RESERVOIR RIO-400 CONTRACTOR TO INSURE A COMPLETE SYSTEM.
3. MOUNT CELLULARM ENCLOSURE TO SIDE OF RTU CABINET, REFER TO DWG EC06. USE CHASE NIPPLES FOR CIRCUIT RACEWAYS.

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Registered Professional Engineer (Electrical)
CERTIFICATE NO. 31724
BRIAN D. DOWNING
Date Signed 3/10/06

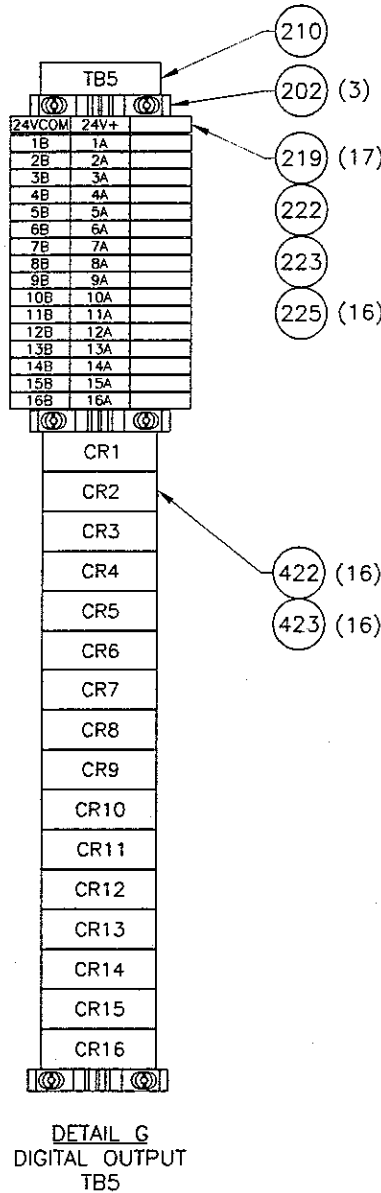
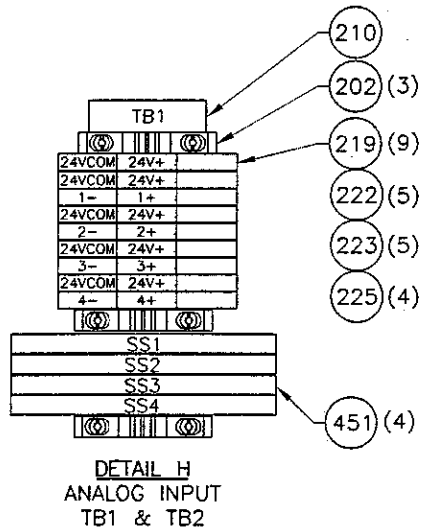
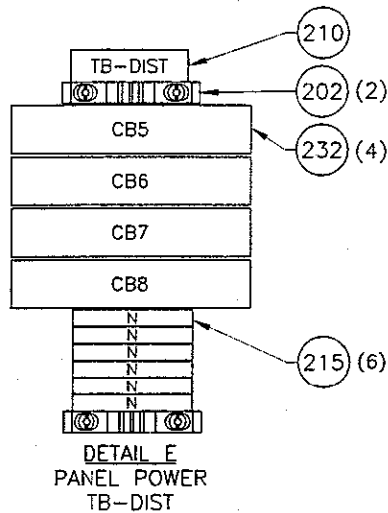
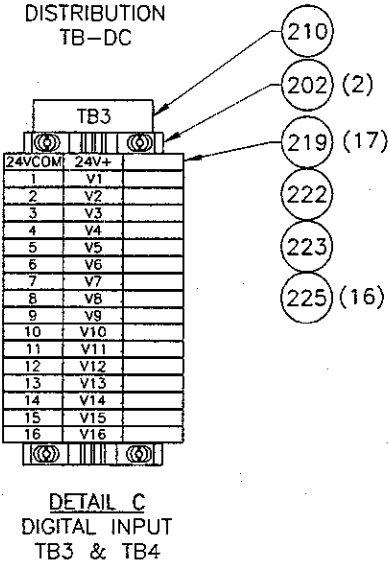
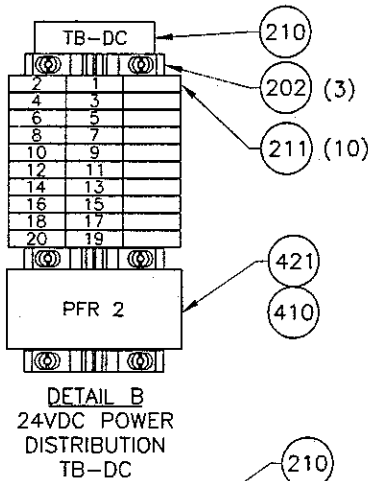
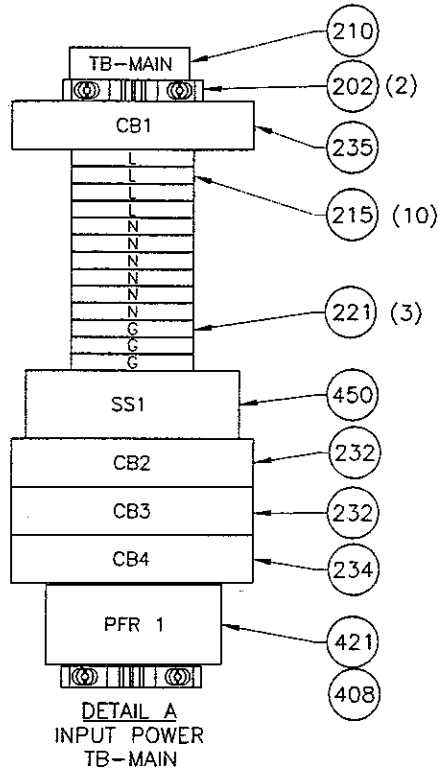
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REVISIONS			
REV.	BY	DATE	DESCRIPTION

GOLDEN VALLEY RANCH WELL #1
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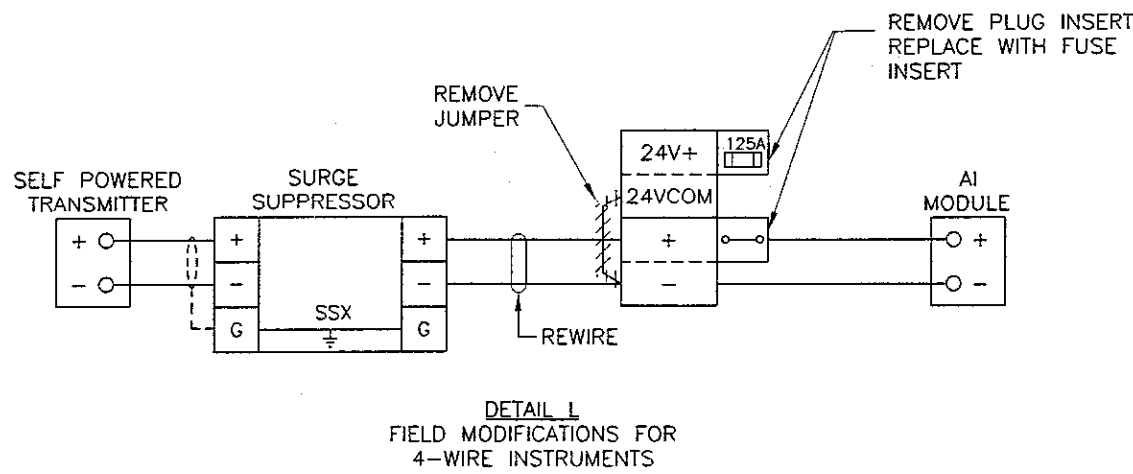
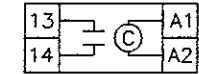
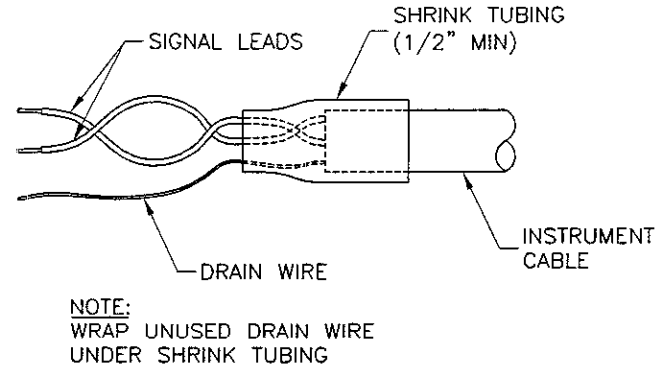
RTU
PANEL
LAYOUT

DRAWN BY: GAF	PROJECT NO. 1175.00.101
DESIGNED BY: GAF	SUBMITTAL DATE: MARCH 2006
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NOTES:

1. PROVIDE BUS BAR STYLE OR INSULATED COMB STYLE JUMPERS WHERE 2 OR MORE TERMINALS IN THE SAME TB ARE COMMONED TOGETHER. DO NOT USE DISCRETE WIRE JUMPERS.
2. BILL OF MATERIALS IS ON DRAWING EC05
3. PANEL BUILDER TO SUPPLY AND INSTALL ALL NECESSARY AND APPROPRIATE ACCESORIES INCLUDING TERMINAL NUMBERS, JUMPERS AND END BARRIERS.



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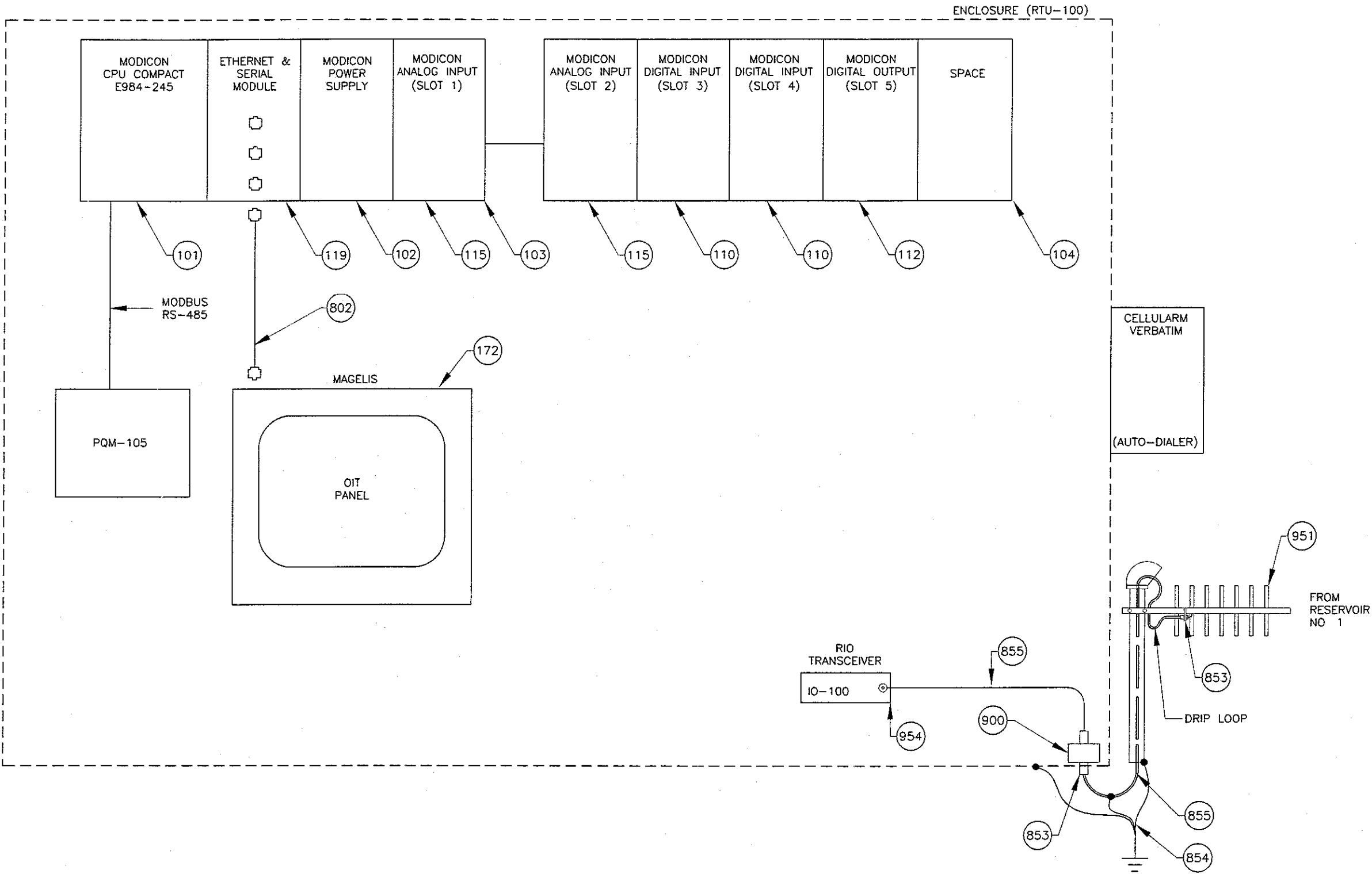
GOLDEN VALLEY RANCH WELL #1
RHODES HOMES ARIZONA, LLC
MOHAVE COUNTY, AZ


TERMINAL BLOCK & DEVICE DETAILS

DRAWN BY: GAF	PROJECT NO. 1175.00.101
DESIGNED BY: GAF	SUBMITTAL DATE: MARCH 2006
CHECKED BY: EH	DRAWING NUMBER EC08 SHEET 8 OF 15


NOTES:

1 BILL OF MATERIALS IS ON DRAWING EC05






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CERTIFICATE NO. 31724
BRIAN D. DOWNING
Date Signed 3/10/06
ARIZONA

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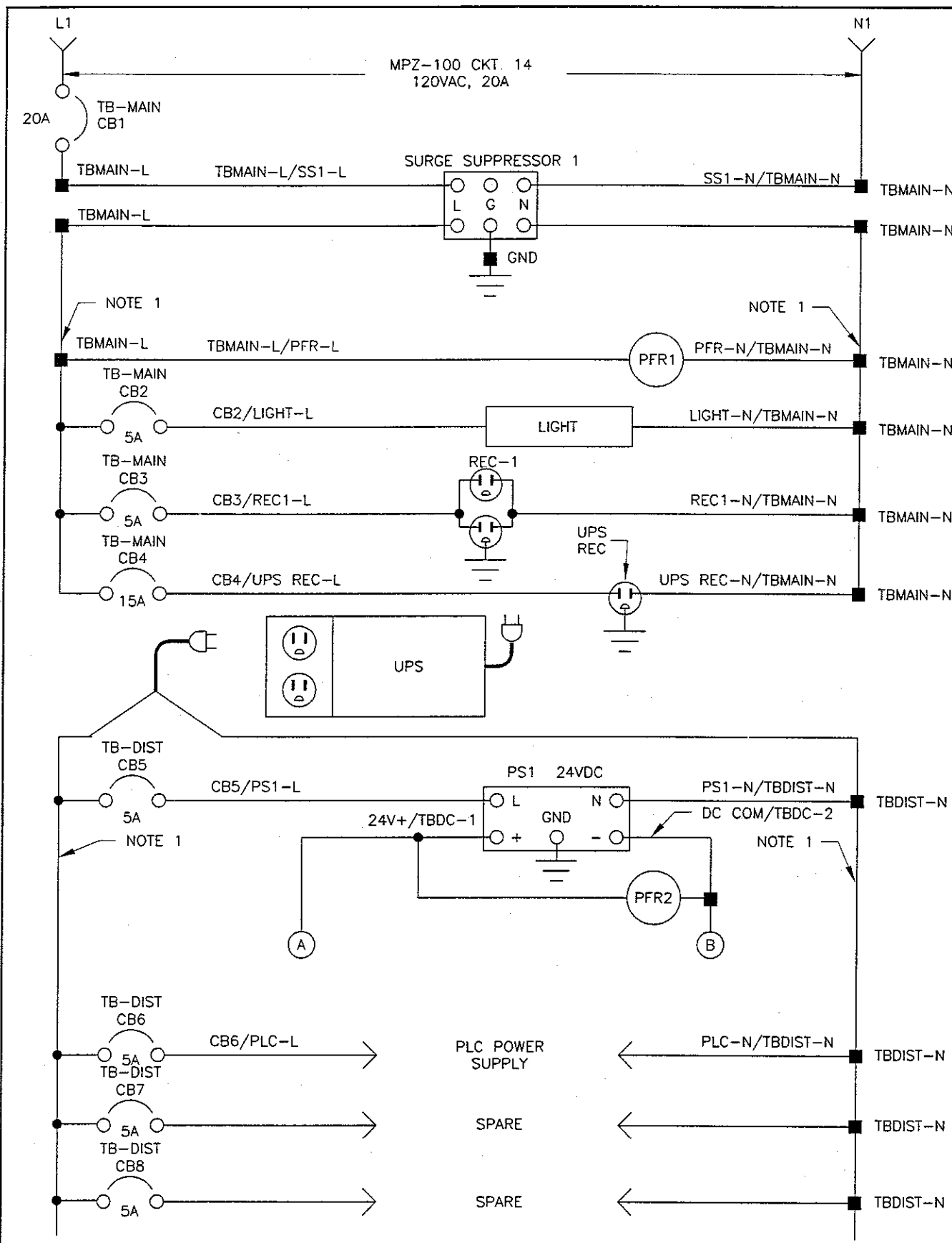
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REVISIONS			
REV.	BY	DATE	DESCRIPTION

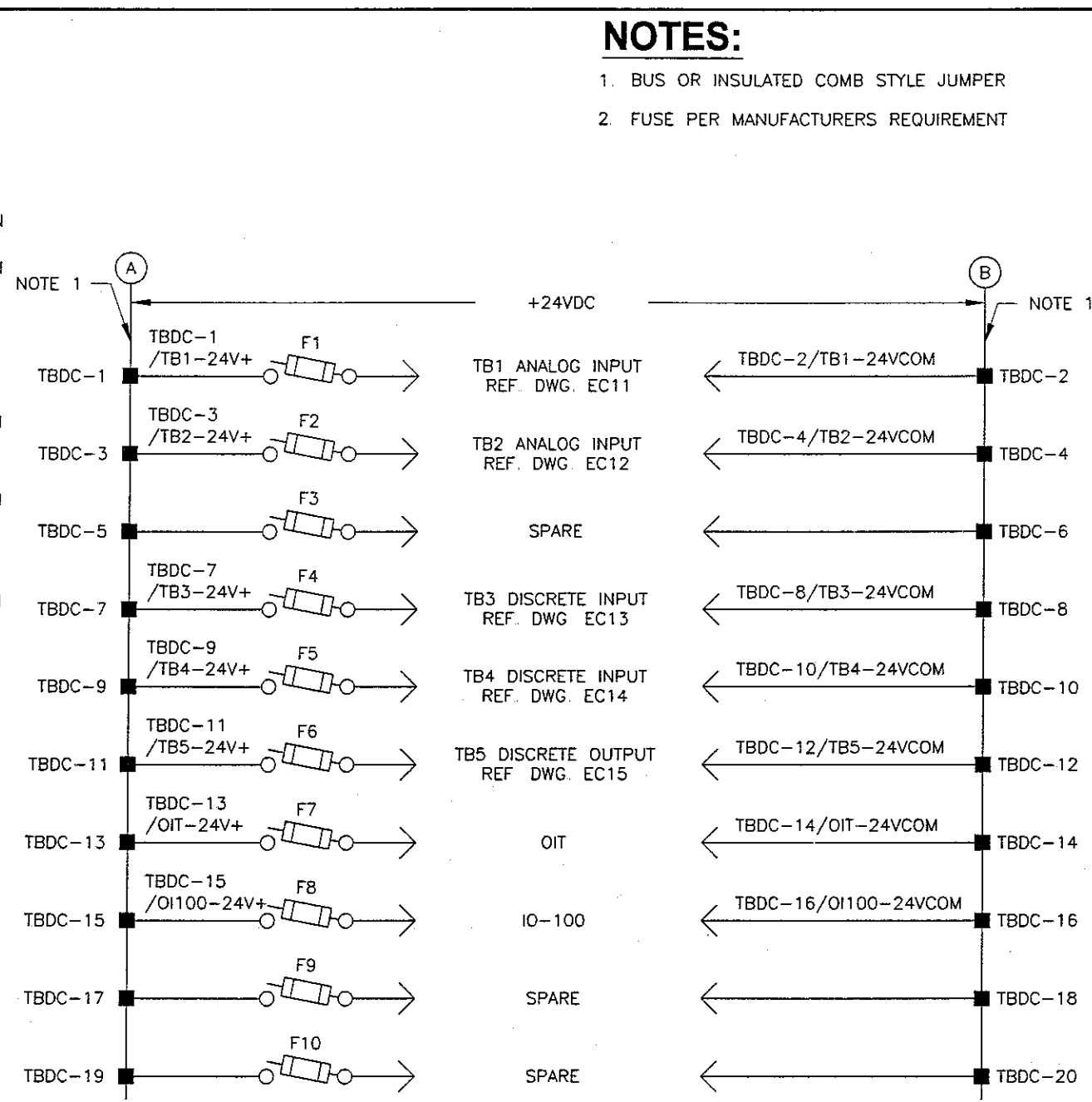
GOLDEN VALLEY RANCH WELL #1
RHODES HOMES ARIZONA, LLC
MOHAVE COUNTY, AZ

COMMUNICATIONS SYSTEMS ARCHITECTURE

DRAWN BY: GAF	PROJECT NO. 1175.00.101
DESIGNED BY: GAF	SUBMITAL DATE: MARCH 2006
CHECKED BY: EH	DRAWING NUMBER EC09 SHEET 9 OF 15



A 120VDC POWER DISTRIBUTION



B 24VDC POWER DISTRIBUTION

- NOTES:**
- 1. BUS OR INSULATED COMB STYLE JUMPER
 - 2. FUSE PER MANUFACTURERS REQUIREMENT

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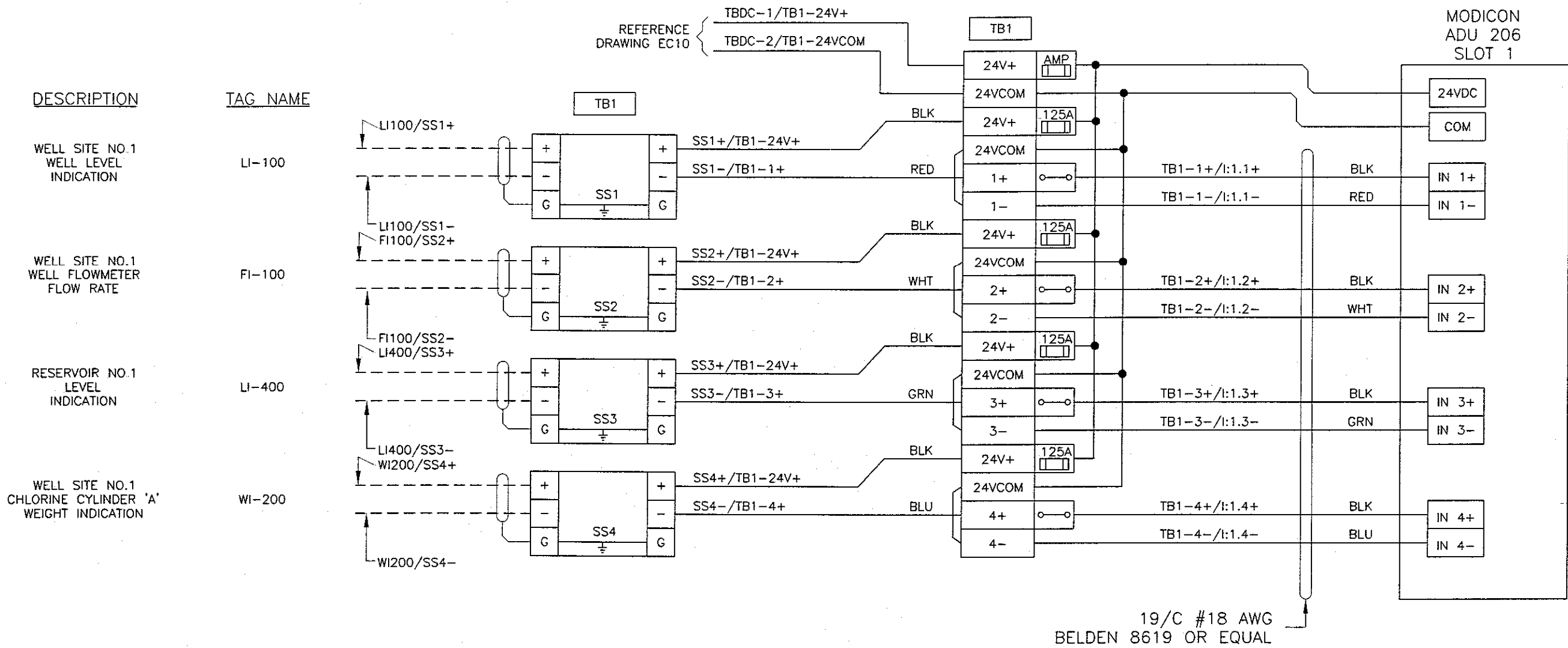
GOLDEN VALLEY RANCH WELL #1
RHODES HOMES ARIZONA, LLC
MOHAVE COUNTY, AZ

POWER DISTRIBUTION SCHEMATIC

DRAWN BY: GAF	PROJECT NO. 1175.00.101
DESIGNED BY: GAF	SUBMITTAL DATE: MARCH 2006
CHECKED BY: EH	DRAWING NUMBER EC10 SHEET 10 OF 15

NOTES:

1. WIRE MODULES PER MANUFACTURER'S REQUIREMENTS.



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CERTIFICATE NO. 31724
BRIAN D. DOWNING
Date Signed: 3/10/06
ARIZONA

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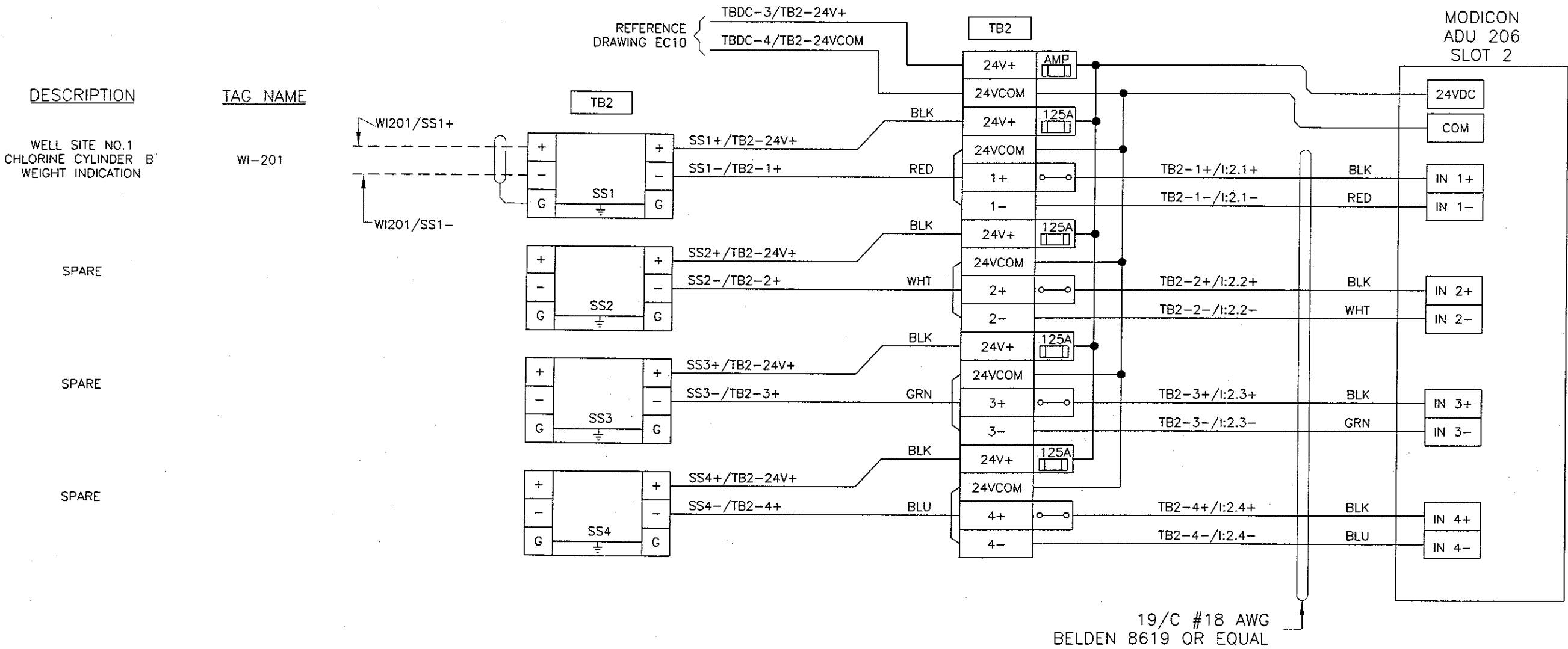
GOLDEN VALLEY RANCH WELL #1
RHODES HOMES ARIZONA, LLC
MOHAVE COUNTY, AZ

SLOT 1
ANALOG INPUT
SCHEMATIC

DRAWN BY: GAF	PROJECT NO. 1175.00.101
DESIGNED BY: GAF	SUBMITTAL DATE: MARCH 2006
CHECKED BY: EH	DRAWING NUMBER EC11 SHEET 11 OF 15

NOTES:

1. WIRE MODULES PER MANUFACTURER S REQUIREMENTS.



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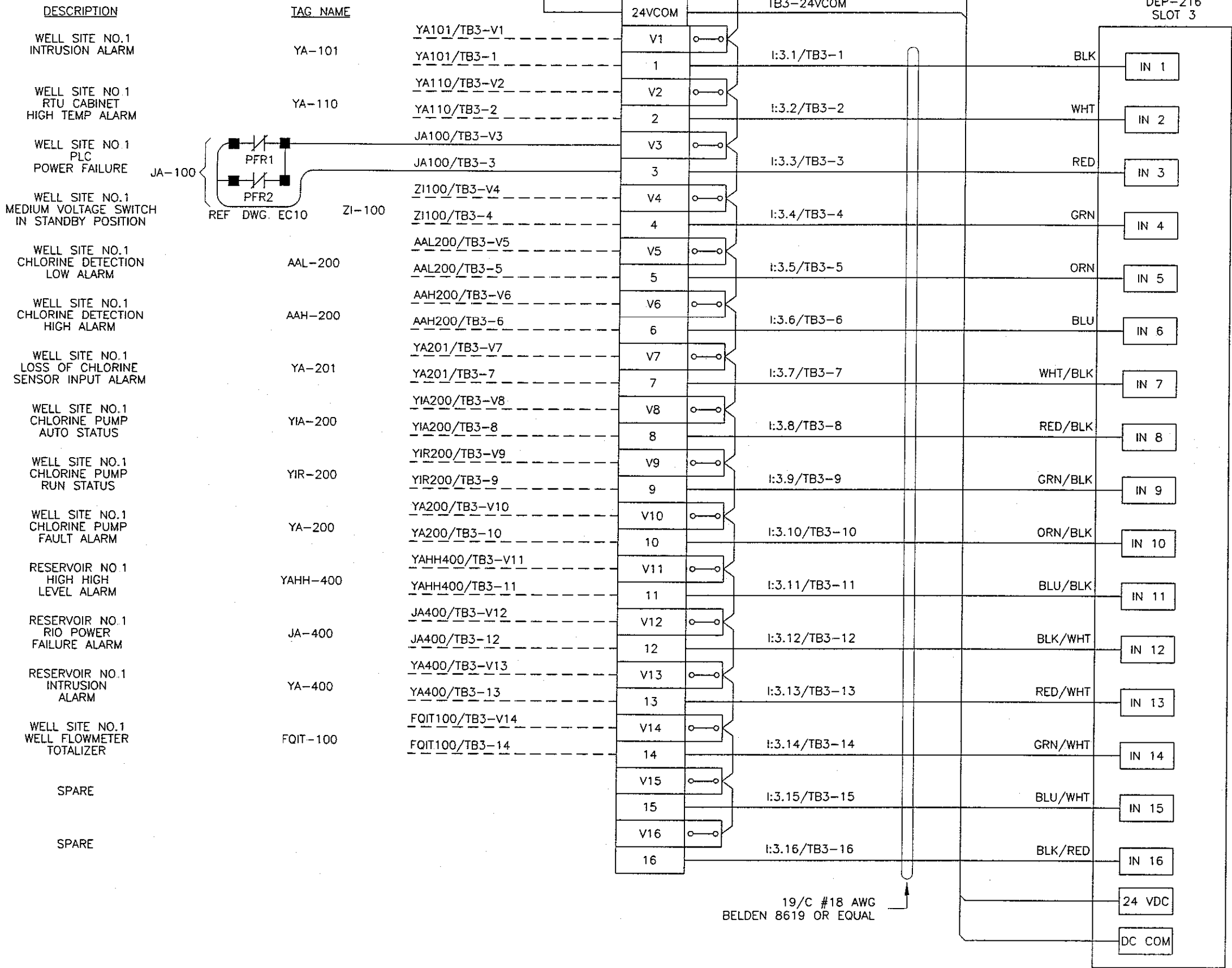
REVISIONS			
REV.	BY	DATE	DESCRIPTION
GOLDEN VALLEY RANCH WELL #1 RHODES HOMES ARIZONA, LLC MOHAVE COUNTY, AZ			

SLOT 2
ANALOG INPUT
SCHEMATIC

DRAWN BY: GAF	PROJECT NO. 1175.00.101
DESIGNED BY: GAF	SUBMITTAL DATE: MARCH 2006
CHECKED BY: EH	DRAWING NUMBER EC12 SHEET 12 OF 15

NOTES:

- 1. WIRE MODULES PER MANUFACTURER'S REQUIREMENTS
- 2. BUS OR INSULATED COMB STYLE JUMPER



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REV.	BY	DATE	DESCRIPTION

GOLDEN VALLEY RANCH WELL #1
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MOHAVE COUNTY, AZ

SLOT 3
DISCRETE INPUT
SCHEMATIC

DRAWN BY: GAF	PROJECT NO. 1175.00.101
DESIGNED BY: GAF	SUBMITTAL DATE: MARCH 2006
CHECKED BY: EH	DRAWING NUMBER EC13 SHEET 13 OF 15

NOTES:

- 1 WIRE MODULES PER MANUFACTURER'S REQUIREMENTS.
- 2 BUS OR INSULATED COMB STYLE JUMPER

DESCRIPTION	TAG NAME
WELL SITE NO.1 WELL PUMP RUN STATUS	YIR-100
WELL SITE NO.1 WELL PUMP AUTO STATUS	YIA-100
WELL SITE NO.1 WELL PUMP FAULT ALARM	YA-100
SPARE	
WELL SITE NO.1 PUMP-TO-WASTE VALVE OPEN STATUS	ZIO-100
WELL SITE NO.1 PUMP-TO-WASTE VALVE CLOSED STATUS	ZIC-100
WELL SITE NO.1 RESERVOIR NO.1 FLOW VALVE OPEN STATUS	ZIO-101
WELL SITE NO.1 RESERVOIR NO.1 FLOW VALVE CLOSED STATUS	ZIC-101
WELL SITE NO.1 WELL PUMP VALVE INCOMPLETE SEQUENCE ALARM	YAV-100
WELL SITE NO.1 WELL PUMP HIGH PRESSURE ALARM	PAH-100

SPARE

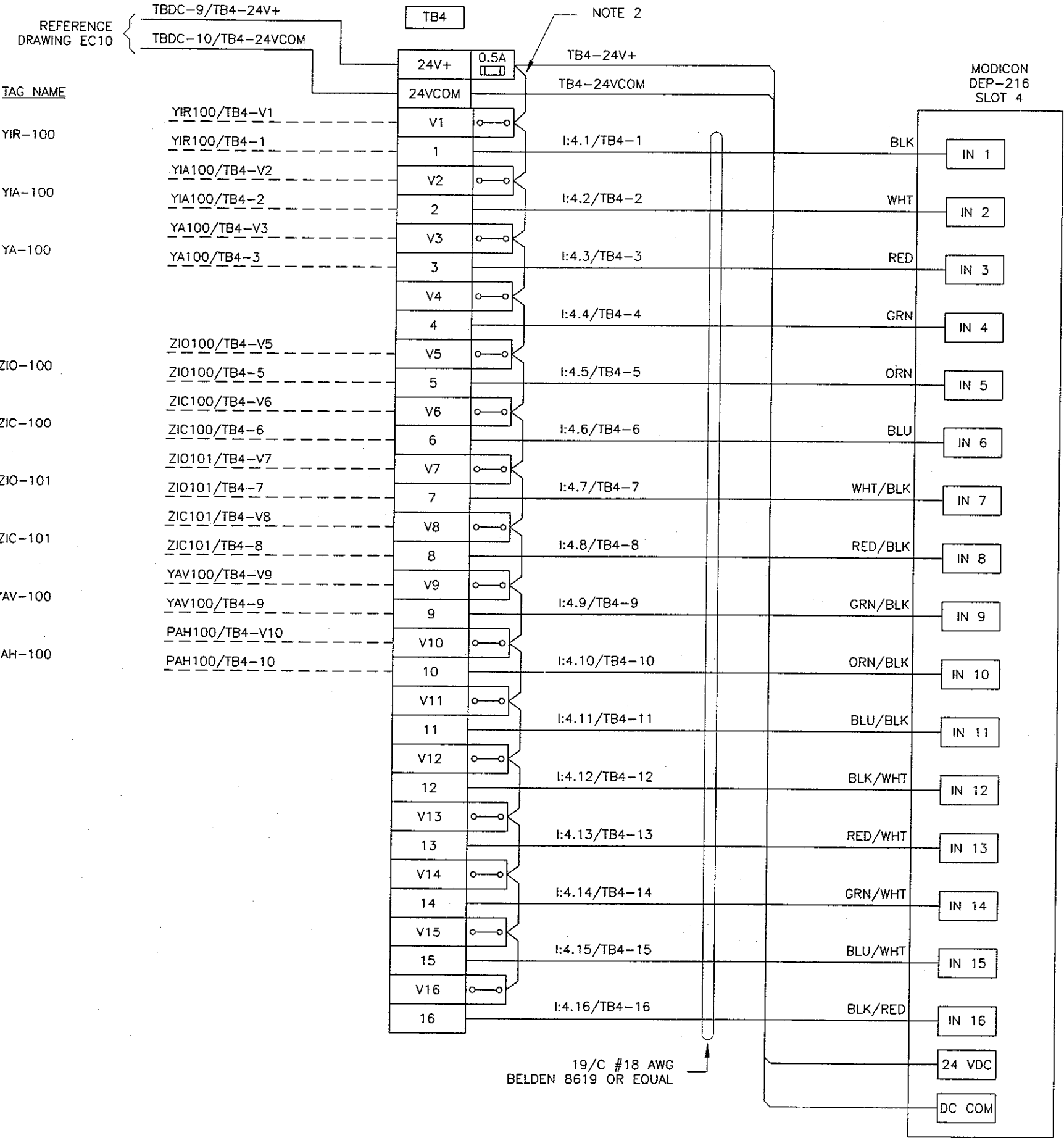
SPARE


SPARE

SPARE


SPARE

SPARE






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Date Signed 3/16/06
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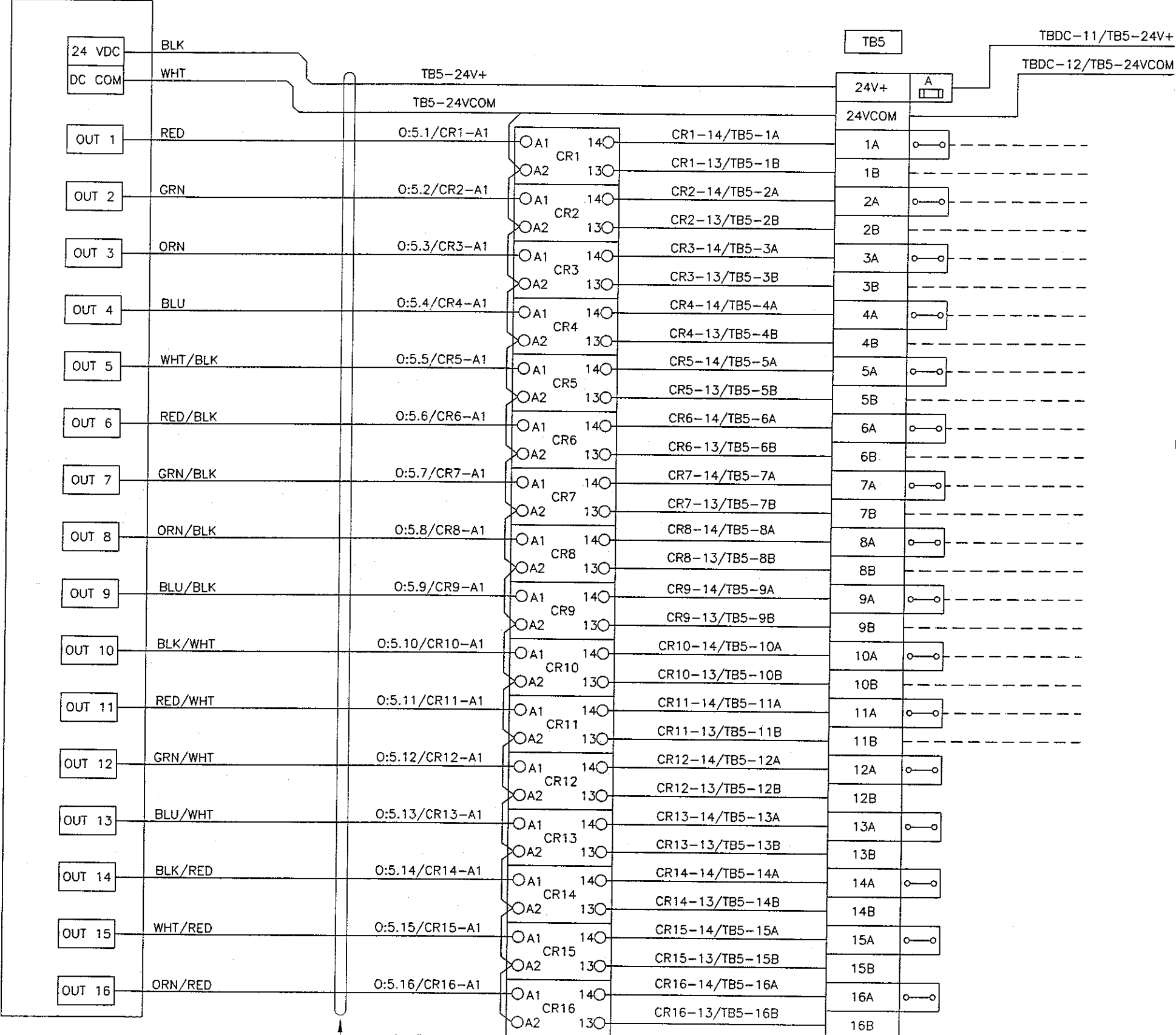
REV.	BY	DATE	DESCRIPTION

GOLDEN VALLEY RANCH WELL #1
RHODES HOMES ARIZONA, LLC
MOHAVE COUNTY, AZ

SLOT 4
DISCRETE INPUT
SCHEMATIC

DRAWN BY: GAF	PROJECT NO. 1175.00.101
DESIGNED BY: GAF	SUBMITTAL DATE: MARCH 2006
CHECKED BY: EH	DRAWING NUMBER EC14 SHEET 14 OF 15

MODICON
BDAP216N
SLOT 5



NOTES:

- 1. WIRE MODULES PER MANUFACTURER'S REQUIREMENTS
- 2. BUS OR INSULATED COMB STYLE JUMPER

REFERENCE
DRAWING EC10

TAG NAME	DESCRIPTION
YCR-100	WELL SITE NO.1 WELL PUMP PLC RESET
LAHH-100A	RESERVOIR NO.1 HIGH HIGH LEVEL ALARM
YC-100	WELL SITE NO.1 WELL PUMP START/STOP COMMAND
JA-400A	RESERVOIR NO.1 RIO POWER FAILURE ALARM
AAL-200	WELL SITE NO.1 CHLORINE LEAK ALARM
LAHH-100B	RESERVOIR NO.1 HIGH HIGH LEVEL ALARM
YA-100	WELL SITE NO.1 WELL PUMP FAULT ALARM
YA-200	WELL SITE NO.1 CHLORINE BOOSTER PUMP FAULT ALARM
	SPARE
YA-101A	WELL SITE NO.1/RESERVOIR NO.1 INTRUSION ALARM
YA-105	WELL SITE NO.1 LOSS OF POWER
	SPARE
	SPARE
	SPARE
	SPARE
	SPARE



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REV.	BY	DATE	DESCRIPTION
GOLDEN VALLEY RANCH WELL #1 RHODES HOMES ARIZONA, LLC MOHAVE COUNTY, AZ			

SLOT 5 DISCRETE OUTPUT SCHEMATIC	
DRAWN BY: GAF	PROJECT NO. 1175.00.101
DESIGNED BY: GAF	SUBMITTAL DATE: MARCH 2006
CHECKED BY: EH	DRAWING NUMBER EC15 SHEET 15 OF 15